Model ID: N A 2 3 W A B A S

DBG DPBU II Service

Service Manual

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Safety Notice

Any person attempting to service this chassis must familarize with the chassis and be aware of the necessary safety precautions to be used when serving electronic equipment containing high voltage.

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Product Announcement:

This product is certificated to meet RoHS Directive and Lead-Free produced definition. Using approved critical components only is recommended when the situation to replace defective parts. Vender assumes no liability express or implied, arising out of any unauthorized modification of design or replacing non-RoHS parts. Service providers assume all liability.

Qualified Repairability:

Proper service and repair is important to the safe, reliable operation of all series products. The service providers recommended by vender should being aware of notices listed in this service manual in order to minimize the risk of personal injury when perform service procedures. Furthermore, the possible existed improper repairing method may damage equipment or products. It is recommended that service engineers should have repairing knowledge, experience, as well as appropriate product training per new model before performing the service procedures.

NOTICE:

- To avoid electrical shocks, the products should be connect to an authorized power cord, and turn off the master power switch each time before removing the AC power cord.
- To prevent the product away from water or exploded in extremely high humility environment.
- To ensure the continued reliability of this product, use only original manufacturer's specified parts.
- To ensure following safety repairing behavior, put the replaced part on the components side of PWBA, not solder side.
- To ensure using a proper screwdriver, follow the torque and force listed in assembly and disassembly procedures to screw and unscrew screws.
- Using Lead-Free solder to well mounted the parts.
- The fusion point of Lead-Free solder requested in the degree of 220°C.

Go to cover page

This model combine with two platform. See below explanation.

1.Scaler IC:NT68627U used in VGA port. Using simply word to define it(1A)

2.Scaler IC:NTNT68667U used in VGA and DVI port. Using simply word to define it(1A1D)

3.Scaler IC:NT68671UMFG used in VGA ,DVI and HDMI port .Using simply word to define it.(1A1D1H)

1A and 1A1D product specification:

1.1 SCOPE

This document defines the design and performance requirements for a 23W inch diagonal , flat panel monitor .The display element shall be a 1920x1080 or a 2048x1152 resolution TFT-LCD (Thin Film Transistor Liquid Crystal Display).16.7M colors(Hi-FRC) images are displayed on the panel.

Video input signals are analog RGB (0.7Vp-p). When the system is powered-on , previously stored screen parameters for a pre-defined mode will be recalled if the operating mode is one of stored in memory(21 factory , 9 users timing).

This monitor operates normal by non-interlaced mode.

DDC (Display Data Channel) function is DDC2Bi compliance.Power saving function complies with the DPMS (Display Power Management Signaling) standard.

1.2 GENERAL REQUIREMENTS

1.2.1 Test Condition

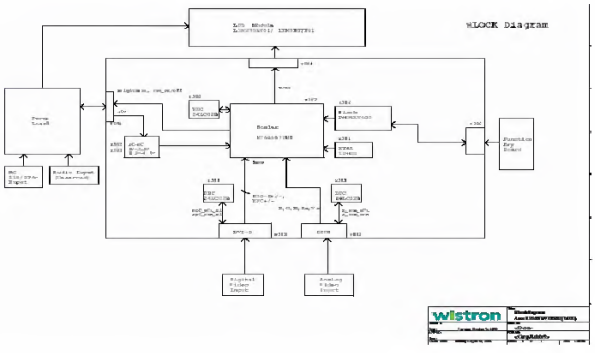
Brightness level & contrast level max. Full white pattern test mode following spec. Warm up more than 1 hr, ambient light < 10 Lux , Luminance meter Ca210 or BM7 or same equipment .

1.2.2 Test Equipment

The reference signal source is a calibrated Chroma 2237 video generator or higher. The use of other signal generators during qualification and production is acceptable provided the product complies with this specification.

1.3 ELECTRICAL

This section describes the electrical requirement of the monitor.



The LCD monitor consists of an interface board, a power board and inverter board, a function key board.

The interface board will house the flat panel control logic , brightness control logic, audio function control (option), key function control, DDC and DC to DC conversion to supply the appropriate power to the whole board and LCD flat panel , and transmitting LVDS signals into LCD flat panel module to drive the LCD display circuit .

The power board will support main power DC5V to interface board, and drive the two CCFLs (Cold Cathode Fluorescent Tube).

The interface board provides the power ON / OFF control over the power board.

Whole monitor to control the DPMS LED indicator to function key board.

ITEM		SPEC
Signal Input (Analog)	Frequency	Analog: H:30kHz~76kHz V:55Hz~61Hz
	Pixel clock	205MHz (Max)
	Video Input	Analog 0.7Vp-p
	Display Pixels	640 x 480 (VGA) ~ 2048 x 1152(WUXGA)
	Sync Signal	Separate SYNC for TTL (N or P)
Signal Input (Digital)	Frequency	Digital: H:30kHz~76kHz V:55Hz~61Hz
	Pixel clock	165MHz (Max)
	Video Input	Analog 0.7Vp-p Input Impedance 75
	Display Pixels	640 x 480 (VGA) ~ 2048 x 1152(CVT-RB)
Connector	AC Input	AC100V ~ AC240V 10% 50/60Hz, 3 pin AC power cord
	Input connector	D-SUB 15 pin, DVI-D
	Audio Jack (OPTIONAL)	Audio input 3.5
Power Consumption	AC in 100V~240V	Active 55W, power saving < 2W
User's Control	Front	Empowering, Auto Adjust, Adjust(-), Adjust(+), Menu, Power
	OSD	Contrast, Brightness, Position, Clock, Phase, Analog/Digital, Reset, Color, Language select, etc.
Pre-Defined Timing	Factory	21
	User	9
Plug and Play		VESA DDC2Bi
Power Saving		VESA DPMS
Input Signal Counter Tolerance		H 1 kHz, V 1 Hz

1.3.1 Interface Connectors

1.3.1.1 Power Connector and Cables

The AC input shall have an IEC/CEE-22 type male power receptacle for connection to mains power. The power cord shall be with length of 1.8 0.005 meters.

1.3.1.2 Video Signal Connectors and Cable

The signal cable shall be 1.8 0.005 meters long. At the end of the cable shall be a molded-over, shielded, triple row, 15 position, D-subminiature connector. The CPU connection shall have captive screw locks, which will be adequate for hand tightening. The monitor connection may use small screws.

Conoector Pio Description		
D-SUB Pin Description		
Pin	Nama	Description
1	Red-Video	Red video signal input.
2	Green-Video	Green video signal input.
3	Blue-Video	Blue video signal input.
4	GND	Ground
5	DDC-GND	DDC ground for the VESA DDC2Bi function.
6	Red-GND	Analog signal ground for the Red video.
7	Green-GND	Analog signal ground for the Green video.
8	Blue-GND	Analog signal ground for the Blue video.
9	+5V	+5V input from host system for the VESA DDC2Bi function.
10	Sync-GND	Signal ground
11	GND	Ground
12	DDC_SDA	SDA signal input for the VESA DDCB2i function.
13	H-SYNC	Horizontal signal input from the host system.
14	V-SYNC	Vertical signal input from the host system.
15	DDC-SCL	SCL signal input for the VESA DDC2Bi function.

DVI-D Pin Assignment

Pin	Signal	Pin	Signal	Pin	Signal
1	RX2-	11	GND	21	NC
2	RX2+	12	NC	22	GND
3	GND	13	NC	23	RXC+
4	NC	14	5V	24	RXC-
5	NC	15	GND		
6	SCL	16	HP		
7	SCA	17	RX0-		
8	NC	18	RX0+		
9	RX1-	19	GND		
10	RX1+	20	NC		

1.3.1.3 Audio Jack (option)

This jack shall connect the audio input from host computer.

1.3.2 Video Input Signals

Video Input Signal

No.	Symbol	Item	Min	Normal	Max	Unit	Remark
1	Fh	Scanning Horizontal Frequency	30		76	kHz	Minimum range
2	Fv	Scanning Vertical Frequency	55		64	Hz	Minimum range
3	Vih	Hi Level Input	2		5		Note 1)
4	Vil	Low Level Input	0		0.8	V	Note 1)
5	Video	RGB Analog Video Level	0.0	0.7	1.0	V	75Ω to Ground

Note 1) Schmitt-Trigger Input, Supported 3.3V device H/&V1 sync output from PC

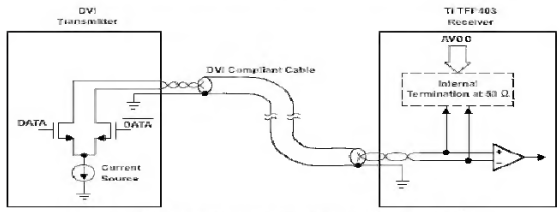


Figure 14. TMDS Differential Input and Transmitter Connection

Figure 15. TMDS Inputs

1.3.2.1 Video Signal Amplitudes

The three video inputs consist of Red , Green , and Blue signals, each with its own coaxial cable terminated at the monitor. These video signals are analog levels, where 0 V corresponds to black , and 700 mV is the maximum signal amplitude for the respective color, when each signal is terminated by a nominal 75.0 ohms .For a given monitor luminance levels are measured using this defined video amplitude driving a monitor meeting the termination requirements . The signal amplitude is not to be readjusted to compensate for variations in termination impendence.

1.3.2.2 Video Signal Termination Impedance

This analog video signal termination shall be 75 1% which shall be resistive with a negligible reactive component.

1.3.2.3 Synchronization (Sync) Signals

The Horizontal Sync (HS) TTL signal is used to initiate the display of a horizontal line. HS may be either active high or active low, depending upon the timing .The Vertical Sync (VS) TTL signal is used to initiate the display of a new frame .VS may be either active high or active low, depending on the timing .

1.3.2.4 Sync Signal Levels

The monitor must accept sync signals from both 3.3 and 5 volt TTL logic families.The inputs shall sense a logic 0 when the input is 0.8 volt or less and shall sense a logic 1 when the input is 2.0 volts or greater. In addition to these level requirements , there shall also be a minimum of 0.3 volt hysteresis provided for noise immunity (typically by using a Schmitt Trigger input). That is , the input level at which the monitor actually detects a logic 0 shall be at least 0.3 volt lower than the level at which it actually detects a logic 1.If the monitor sync processing circuits are designed around the 3.3 volt logic family ,then the sync inputs must be 5 volt tolerant .

1.3.2.5 Sync Signal Loading

TTL input loading shall be equivalent to one TTL input load. When logic 0 is asserted by a sync input , the maximum current source from any single monitor sync input to the driver is 1.6 mA .When logic 1 is asserted , the maximum current source from the driver to any single monitor sync input is 400 uA .

1.3.2.6 Abnormal Signal Immunity

The monitor shall not be damaged by improper sync timing , pulse duration , or absence of sync , or abnormal input signal amplitude (video and/ or sync too large or too small) , or any other anomalous behavior of a graphics card video generator when changing modes , or when any combination of input signals is removed or replaced . Additionally , under these conditions , the monitor shall not cause damage to the driving source .

1.3.3 User Controls and Indicators

1.3.3.1 Power On / Off Switch

The monitor shall have a power control switch visible and accessible on the front of the monitor . The switch shall be marked with icons per IEC 417 , # 5007 and # 5009.The switch shall interrupt the DC supply to the monitor.

1.3.3.2 Power Indicator LED

The monitor shall make use of an LED type indicator located on the front of the monitor . The LED color shall indicate the power states as given in Table 1.

Table 1

Function	LED Color
Full Power	Blue color
Sleep	Orange color

1.3.3.3 On-Screen Display

The Wistron On Screen Display system shall be used, controlled by a Menu button. If the buttons remain untouched for OSD turn off time while displaying a menu, the firmware shall save the current adjustments and exit. Also, if the video controller changes video mode while the OSD is active, the current settings shall be saved immediately, the OSD turn off, and new video mode is displayed.

Description

Key	When no OSD display	OSD Displayed
MENU	Menu Display	1. To display the OSD menu on the screen. 2. To select the OSD sub-Menu
>	Speaker Volume/Plus (with Audio)	1. Back-forward selection of the OSD menu. 2. Decrease the value after sub-menu selected.
<	Speaker Volume/Minus (with Audio)	1. Forward selection of the OSD menu. 2. Increase the value after sub-menu selected.
Auto	Auto Adjust Function	Menu or sub menu auto adjust
e	Empowering	Menu or sub menu EXIT/Scenario mode

ITEM	CONTENT
AUDIO VOLUME	To increase or decrease the sound level
BRIGHTNESS	Back light Luminance of the LCD panel is adjusted.
CONTRAST	A gain of R , G and B signal is adjusted.
AUTO CONTRAST	A gain of R , G and B signal auto adjust.
CLOCK	The ratio of dividing frequency of the dot clock is adjusted.
PHASE	The phase of the dot clock is adjusted.
H-POSITION	The indication screen is horizontally moved right and left (1 Pixels pitch).
V-POSITION	The indication screen is vertically moved up and down (1 Pixels pitch).
AUTO ADJUST	Clock system auto adjustment, about under 8 sec.
COLOR BALANCE	Select three kinds of modes. (USER /WARM / Cold).
OSD POSITION	The OSD indication position can be adjusted.
OSD LANGUAGE	Select the language used for the OSD menu among English , French , Italian , Deutsch and Spanish..繁中 , 簡中 , 日文 , EMEA.荷蘭 .俄羅斯 .芬蘭
RECALL DEFAULTS	All data copy from factory shipment data.
OSD DURATION	Adjust OSD menu off time range from10~120 second.
POWER-SAVE	Back light of the LCD panel is cut when the signal is not input (AC line power consumption 2W or less).
INFORMATION	The frequency of the horizontal / vertical synchronizing signal under the ioput is indicated.

NOTE : OSD MENU SEE APPENDIX A

1.3.4 Monitor Modes and Timing Capability

1.3.4.1 Format and Timing

The monitor shall synchronize with any vertical frequency from 55 to 61 Hz , and with any horizontal frequency from 30 to 76KHz. If the input frequency is out of the above – specified range, the monitor shall display a warning screen indicating that the input frequency is out of range. Under no circumstances shall any combination of input signals cause any damage to the monitor .

1.3.4.2 Factory Assigned Display Modes

There are 18 factory pre-set frequency video modes. These modes have a factory pre-set for all characteristics affecting front-of-screen performance. When the system is powered on, previously stored screen parameters for a pre-defined mode will be recalled if the operating mode is one of those stored in memory. If the operating mode is not one of those stored in memory, the monitor CPU will select the PRESET timing for a mode that is the next lowest in horizontal scanning frequency to the mode being currently used. The screen parameters may be adjusted by the use of the front bezel controls and then may be saved as a user defined mode. The monitor shall include all the preset video timings shown in the following page.(Please see Note. (3))

1.3.4.3 Mode Recognition Pull-in

The monitor shall recognize preset modes within a range of 1KHz whichever is less for horizontal ; and within 1Hz for vertical.

1.3.4.4 User Display Modes

In addition to the factory pre-set video modes, provisions shall be made to store up to 9 user modes. If the current mode is a user mode, the monitor shall select its previously stored settings. If the user alters a setting, the new setting will be stored in the same user mode. The user modes are not affected by the pre-set command. If the input signal requires a new user mode, storage of the new format is automatically performed during user adjustment of the display (if required).(Please see Note.(4))

PRESET PC TIMINGS (ANALOG AND DIGITAL INPUTS) (For 2048x1152 LTM230TT01 projects)

Item	Resolution	H-Sync (kHz)	V-sync (Hz)	Band Width (MHz)	Polarity H	Polarity V	Source
1	640 x 480	31.469	59.94	25.175	-	-	VGA
2	800 x 600	35.156	56.250	36	+	+	VESA
3	800 x 600	37.879	60.317	40	+	+	VESA
4	1024 x 768	48.363	60.004	65	-	-	VESA
5	1280 x 960	60	60	108	+	+	VESA
6	1280 x 1024	63.981	60.02	108	+	+	VESA
7	1440 x 900	55.469	59.01	88.75	+	-	CVT-RB
8	1440 x 900	55.935	59.887	106.5	-	+	CVT
9	1280 x 720	45	60	74.25	-	+	CEA
10	1280 x 800	49.702	59.810	83.5	-	+	CVT
11	1600 x 1200	75	60	162	+	+	VESA
12	1600 x 1200	74.006	59.924	130.25	+	-	CVT-RB
13	1680 x 1050	65.29	59.954	146.25	-	+	CVT
14	1680 x 1050	64.674	59.883	119	+	-	CVT-RB
15	1920 x 1200	74.038	59.95	154	+	-	CVT-RB
16	1920 x 1200	74.556	59.885	193.25	-	+	CVT
17	2048 x 1152	71.52	60	197.967	-	+	CVT
18	2048 x 1152	70.992	59.909	156.75	+	-	CVT-RB

Digital inputs (DVI-D: Conflicting video- and PC-timings are to be treated as Video timings with one exception: 640x480p/60Hz timing to be treated as PC-timing.
Analog input (VGA) treats all timings as PC-timings.

PRESET PC TIMINGS (ANALOG AND DIGITAL INPUTS) (For 1920x1080 LTM230HT01 projects)

Item	Resolution	H-Sync (kHz)	V-sync (Hz)	Band Width (MHz)	Polarity H	Polarity V	Source
1	640 x 480	31.469	59.941	25.175	-	-	VGA
2	640 x 480	35	66.66	30.24	-	-	VESA
3	640 x 480	37.861	72.809	31.5	-	-	VESA
4	720 x 400	31.469	70.087	28.322	-	+	VESA
5	800 x 600	35.156	56.250	36	+	+	VESA
6	800 x 600	37.879	60.317	40	+	+	VESA
7	800 x 600	48.077	72.188	50	+	+	VESA
8	1024 x 768	48.363	60.004	65	-	-	VESA
9	1024 x 768	56.476	70.069	75	-	-	VESA
10	1152 x 864	67.5	75	108	+	+	VESA
11	1280 x 720	44.955	59.94	74.176	-	+	CEA
12	1280 x 800	49.702	59.810	83.5	-	+	CVT
13	1280 x 960	60	60	108	+	+	VESA
14	1280 x 1024	63.981	60.020	108	+	+	VESA
15	1366 x 768	47.712	60.015	85.5	-	+	CVT
16	1440 x 900	55.935	59.887	106.5	-	+	CVT
17	1680 x 1050	65.290	59.954	146.25	+	-	CVT
18	1600 x 1200	75	60	162	+	+	VESA
19	1920 x 1080	67.158	59.963	173	+	-	CVT
20	1920 x 1080	67.5	60	148.5	+	-	CEA
21	1920 x 1080	66.587	59.934	138.5	+	-	CVT-RB

Digital inputs (DVI-D: Conflicting video- and PC-timings are to be treated as Video timings with one exception: 640x480p/60Hz timing to be treated as PC-timing.
Analog input (VGA) treats all timings as PC-timings.

1.3.5 Controller Requirements

1.3.5.1 General Requirements

The monitor shall include a controller capable of converting the analog RGB signal from a standard 2048x1152/1920x1080 resolution video controller in the CPU to a signal which can be displayed on the panel. The controller will include a PLL,A/D converters, LVDS transmitter and other circuitry necessary to perform its function. The PLL shall be stable enough to ensure that a static image from the CPU is placed in the same physical location on the flat panel in each frame.

1.3.5.2 Video Stretching

The monitor shall contain provisions to "stretch" the video signal, so that an input signal from the computer in any resolution smaller than 2048 x 1152 is automatically expanded to fill the entire screen.

1.3.5.3 Panel Timing and Interface

The controller supplied with the monitor shall control all panel timing. This controller shall adequately insulate the monitor from the computer, so that no possible combination of input signals from the computer shall cause damage to the flat panel or any other component of the monitor. The LCD panel interface shall support the TFT standard.

1.3.6 DC - AC Inverter Requirements

The DC-AC inverter is on the power board. The frequencies used by the DC-AC inverter used to power the backlight shall be chosen so as to prevent any noticeable effects on the flat panel (such as a rolling effect).

1.3.7 Power Supply Requirements

The AC to DC converter power supply for the monitor shall be an external AC to DC converter "brick" This brick shall have an IEC receptacle for main power input and a pin - in ---socket for DC power out. The brick shall provide sufficient power for both the monitor and the backlight assembly, and shall meet requirements specified in Table 2.

Table 2
AC to DC Converter Requirements

Input Voltage Range	The operating range shall be from 90 to 132 and 195 to 265 AVC sinusoidal for all models specified.
Input Frequency Range	Input power frequency range sha,; be from 47.5 to 63 Hz over the specified input voltage range.
Power Consumption	Power consumption for the monitor shall be less than 55W over the specified voltage and frequency ranges. In suspend or sleep mode the power consumption will be less than 2W.
Line Fuse	The AC input shall be fused and become electrically open as a result on an unsafe current level. The fuse many not be user replaceable.
Initial Cold Start	The power supply shall start and function properly when under full load, with worst case conditions of input voltage, input frequenct, operating temperature, and cold backlight lamps.
Inrush Current	The inrush current must be limited to 30A when operated at 120VAC, and 50A when operated at 220VAC. Inrush current is measured at an ambient temperature of 25°C, with the unit temperature stabilized in the power-off.
Hot Start Cycle	The power supply shall be damaged when switched ON for one second and OFF for one second for seven consecutive after operating for one hour at full load, 25°C, and nominal input line voltage.
Under Voltage	The power supply shall contain protection circuitry such that the application of an input voltage below the minimum specified in this table shall not cause damage to the power supply unit nor cause failure of the input.
Line Transient	The power supply shall operate within IEC 801-4 (± 1KV) and IEC 801-5 (± 2KV) for the domestic U.S. version. The UPS power supply shall operate and comply with CE mark.

1.3.8 Display Communications Channel

The monitor assembly shall provide a display communications channel that conforms to VESA DDC2Bi hardware requirements. This configuration shall contain the 128-byte EDID file as specified by VESA EDID standard. The monitor should not write to the EDID file for the first two minutes of operation following power-up UNLESS some action taken by the user or the host CPU forces the write (for instance, requesting the serial number via the OSD). Furthermore, it is recommended that CMOS switches be incorporated to isolate the DDC IC from outside connections while the EDID Fault Management is being updated. This is to prevent corruption of the data by attempts to read the data while it is being changed.

1.3.9 Firmware Update Function (same ISP function)

The update firmware need through from the D-Sub connector, use DDC I2C bus to do update firmware.

1.4. ELECTRICAL

1.4.1.General Requirements

The panel used as the display device shall be an 2048 x 1152 or an 1920x1080 resolution 23W , TFT LCD. This panel shall be approved for use in this monitor.

1.4.2. Panel Timings

The controller included with the monitor shall translate all video timings from the CPU that meet the timing requirements listed in Panel specification into timings appropriate for the panel. Under no circumstances may the controller supply the panel with timings that may result in damage . The controller shall insulate the panel from the CPU , so that the panel shall always be driven per it's own specification regardless of the timings being sent from the CPU.

1.4.3. Polarizer Hardness

The outer face of the front polarizer panel shall be covered with a coating with a # 3 hardness value .

1.4.4. Backlight Requirements

1.4.4.1 General Requirements

The backlight assembly shall be designed to support field replacement at the customer site or authorized service center.The lamps shall have a continuous operating life of at least 50,000 hours at 25 . The operating life is defined as having ended when the illumination of light has reached 50% of the initial value. The lamps shall extend a sufficient amount from the edge of the light guide that sputtering over the life of the lamps shall not cause degradation of the luminance uniformity (such as non-illuminated bands along the edges of the display).

1.4.4.2 Lamps Startup Time

The backlight lamps shall start about 2 sec of the time the monitor power switch is pressed or the monitor is restarted from a power - down mode . The starting time shall stay about 2 sec. for the minimum expected life of the lamps.

Test conditions are as follows :

Ambient Light ---------- < 1.0 lux
Temperature---------- 10
Inactive Time ---------- > 24 hours

1.4.5. Defects

1.4.5.1 Visual Inspection

The LCD panel shall be inspected with all pixels set to white, black, red , green , and blue. The color variation, brightness variation , and overall appearance must not be perceived as poor quality by Wistron . Areas and / or parameters considered questionable shall be subjected to detailed measurements .

1.4.5.2 Display Degradation

Over the life of the product , variation of the parameters specified in Panel specification shall be maintained within reasonable limits. The panel must not exhibit any significant defects while in operation (excluding the CCFL operation).This does not in any way change the warranty given by the panel manufacturer .

1.4.5.3 Light Leakage

Except for the active display area , there shall be no light emission visible from any angle from any other part of the display . For this test , the ambient illumination must follow panel's specification.

1.4.5.4 Allowable Defects

No cosmetic defects are allowed except those specified below. The conditions of visual inspections are as follows :

For 24W Series.

Viewing distance is to be approximately 35-50cm

Ambient illumination is to be 300 to 700 lux.

Viewing angle shall be at 90 degree.

Defects not apparent within one minute shall be ignored.

1.4.5.5 Defect Terminology

Table 3 gives the descriptive terms used in classifying defects.

Table 3

Dark / Spots / Lines	Spots or lines that appear dark in the display patteros and are usually the result of contamination. Defects do not vary in size or intensity (contrast) when contrast voltage is varied. Contrast variation can he achieved through the use of varying gray shade patterns.
Bright Spots / Lines	Spots or lines that appear light in the display patterns. Defects do not vary in size or intensity (contrast) when contrast voltage is varied. Contrast variatioo can he achieved through the use of varying gray shade patterns.
Polarizer Scratch	When the unit lights, lines appear light (white) with display patterns dark and do not vary in size. Physical damage to the polarizer that does not damage the glass
Polarizer Dent	When the unit lights, spots appear light (white) with display patterns dark and do not vary in size. Physical damage to the polarizer that does not damage the glass.
Ruhhing Line	Horizontal or diagonal lines that appear gray with the display patterns dark and may have resulted from an "out of control" ruhbing process on the polyimide or "waves" on the BEFs or prism sheets.
Newton Ring	The "rainhow" effect caused hy non-uniform cell thickness.
Mottling	When the unit lights, variation / non – uniformity (splotchiness) appears light (white) with the display and might vary in size.
Dim Line	When the unit lights, line(s) in the monitor (vertical) or major (horizontal) axis appear dim, hut not completely on or off.
Cross Lines Off	When the unit lights, lines in hoth the minor and major axis do not appear.
Bright / Dark Dot	A suh – pixel (R,G,B dot) stuck off / on (electrical).

1.4.5.6 Smudges, Streaks and Smears

When viewing the panel oriented so as to maximize reflected light , there shall be no visible smudging , streaking, smearing or other non-uniformity from contaminants ,fingerprints, or defects in any of the visible surfaces. This is independent of whether the unit is operating or off .

1.4.5.7 Other Defects

Undefined defects that are considered to be rejectable by Wistron will be reviewed by Wistrin as they become apparent. These panels will be referred to the Wistron Corporate / Manufacturer Purchasing Agreement for disposition.

1.4.5.8 LCD Inspection

Put LCD panel on inspection table and illuminate the panel with a daylight fluorescent lamp located above the panel surface such that the luminance at the LCD panel is between 1000 lux and 1500 lux .Defect limits are given in Table 4 .

Table 4

Average Diameter smaller of (L+W)/2 or L/20+2W	Acceptable Number	Minimum Separation
< 0.1mm	Non countable	N / A
0.1 mm ~ 0.3 mm	10	15 mm
0.31 mm ~ 0.5 mm	10	15 mm
0.51 mm ~ 1.25 mm	5	15 mm
1.26 mm ~ 2.5 mm	3	25.4 mm
2.51 mm ~ 3.75 mm	3	25.4 mm
Greater than 3.75 mm	NONE	Not applicable

Note : Allowable distance between spots of two sizes is the minimum separation number for the smaller spot. Therefore, if there are two spots, 1.30mm and 0.4mm in diameter, they must be at least 15mm apart.

1.5 Optical Characteristics

Depends on the LCD supplier's spec. Details refer to QA Inspection Spec.

1A1D1H product specification:

1.1 SCOPE

This document defines the design and performance requirements for a 23W inch diagonal , flat panel monitor .The display element shall be a 1920x1080 resolution TFT-LCD (Thin Film Transistor Liquid Crystal Display).16.7M color(Hi-FRC) images are displayed on the panel.

Video input signals are analog RGB (0.7Vp-p). When the system is powered-on , previously stored screen parameters for a pre-defined mode will be recalled if the operating mode is one of stored in memory(22 factory mode).

This monitor operates normal by non-interlaced mode.

DDC (Display Data Channel) function is DDC2Bi compliance.Power saving function complies with the DPMS (Display Power Management Signaling) standard.

1.2 GENERAL REQUIREMENTS

1.2.1 Test Condition

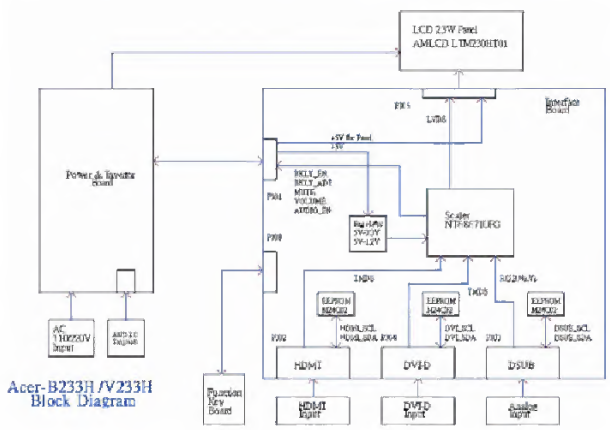
Brightness level & contrast level max. Full white pattern test mode following spec. Warm up more than 1 hr, ambient light < 10 Lux , Luminance meter Ca210 or BM7 or same equipment .

1.2.2 Test Equipment

The reference signal source is a calibrated Chroma 2237 video generator or higher. The use of other signal generators during qualification and production is acceptable provided the product complies with this specification.

1.3 ELECTRICAL

This section describes the electrical requirement of the monitor.



Acer-B233H/V233H Block Diagram

The LCD monitor consists of an interface board, a power board and inverter board, a function key board.

The interface board will house the flat panel control logic , brightness control logic, audio function control (option), key function control, DDC and DC to DC conversion to supply the appropriate power to the whole board and LCD flat panel , and transmitting LVDS signals into LCD flat panel module to drive the LCD display circuit .

The power board will support main power DC5V to interface board, and drive the two CCFLs (Cold Cathode Fluorescent Tube).

The interface board provides the power ON / OFF control over the power board.

Whole monitor to control the DPMS LED indicator to function key board.

ITEM		SPEC
Signal Input (Analog)	Frequency	Analog: H:30kHz~94kHz V:50Hz~75Hz
	Pixel clock	205MHz (Max)
	Video Input	Analog 0.7Vp-p
	Display Pixels	640 x 480 (VGA) ~ 1920 x 1080
	Sync Signal	Separate SYNC for TTL (N or P)
Signal Input (Digital)	Frequency	Digital: H:30kHz~94 kHz V:50Hz~75Hz
	Pixel clock	165MHz (Max)
	Video Input	TMDS Input Impedance 75
	Display Pixels	640 x 480 (VGA) ~ 1920 x 1080
Connector	AC Input	AC100V~AC240V 10% 50/60Hz, 3 pin AC power cord
	Input connector	D-SUB 15 pin, DVI-D & HDMI
	Audio Jack (OPTIONAL)	Audio Input 3.5
Power Consumption	AC in 100V~240V	Active 55W, power saving < 2W
User's Control	Front	Empowering, Auto Adjust, Adjust(-), Adjust(+), Menu, Power
	OSD	Contrast, Brightness, Position, Clock, Phase, Analog/Digital, Reset, Color, Language select, etc.
Pre-Defined Timing	Factory	22
	User	9
Plug and Play		VESA DDC2Bi
Power Saving		VESA DPMS
Input Signal Counter Tolerance		H 1 kHz, V 1 Hz

1.3.1 Interface Connectors

1.3.1.1 Power Connector and Cables

The AC input shall have an IEC/CEE-22 type male power receptacle for connection to mains power. The power cord shall be with length of 1.8 0.005 meters.

1.3.1.2 Video Signal Connectors and Cable

The signal cable shall be 1.8 0.005 meters long. At the end of the cable shall be a molded-over, shielded, triple row, 15 position, D-subminiature connector. The CPU connection shall have captive screw locks, which will be adequate for hand tightening. The monitor connection may use small screws.

Connector Pin Description

D-SUB Pin Description

Pin	Name	Description
1	Red-Video	Red video signal input.
2	Green-Video	Green video signal input.
3	Blue-Video	Blue video signal input.
4	GND	Ground
5	DDC-GND	DDC ground for the VESA DDC2Bi function.
6	Red-GND	Analog signal ground for the Red video.
7	Green-GND	Analog signal ground for the Green video.
8	Blue-GND	Analog signal ground for the Blue video.
9	+5V	+5V input from host system for the VESA DDC2Bi function.
10	Sync-GND	Signal ground
11	GND	Ground
12	DDC_SDA	SDA signal input for the VESA DDCB2i function.
13	H-SYNC	Horizontal signal input from the host system.
14	V-SYNC	Vertical signal input from the host system.
15	DDC-SCL	SCL signal input for the VESA DDC2Bi function.

DVI-D Pin Assignment

Pin	Signal	Pin	Signal	Pin	Signal
1	RX2-	11	GND	21	NC
2	RX2+	12	NC	22	GND
3	GND	13	NC	23	RXC+
4	NC	14	+5V	24	RXC-
5	NC	15	GND		
6	SCL	16	HP		
7	SDA	17	RX0-		
8	NC	18	RX0+		
9	RX1-	19	GND		
10	RX1+	20	NC		

HDMI *Type A Connector Pin Assignment*

PIN	Signal Assignment
1	TMDS Data2+
3	TMDS Data2–
5	TMDS Data1 Shield
7	TMDS Data0+
9	TMDS Data0–
11	TMDS Clock Shield
13	CEC
15	SCL
17	DDC/CEC Ground
19	Hot Plug Detect

PIN	Signal Assignment
2	TMDS Data2 Shield
4	TMDS Data1+
6	TMDS Data1–
8	TMDS Data0 Shield
10	TMDS Clock+
12	TMDS Clock–
14	Reserved (N.C. on device)
16	SDA
18	+5V Power

1.3.1.3 Audio Jack (option)

This jack shall connect the audio input from host computer.

1.3.2 Video Input Signals

NO.	Symbol	Item	Min	Normal	Max	Unit	Remark
1	Fh	Scanning Horizontal Frequency	30		94	kHz	Minimum Range
2	Fv	Scanning Vertical Frequency	50		75	Hz	Minimum Range
3	Vih	Hi Level Input	2		5		Note 1)
4	Vil	Low Level Input	0		0.8	V	Note 1)
5	Video	RGB Analog Video Level	0.0	0.7	1.0	V	75? to Ground

Note1) SchmittTriggers Input , Supported 3.3V device H (& V) sync output from PC

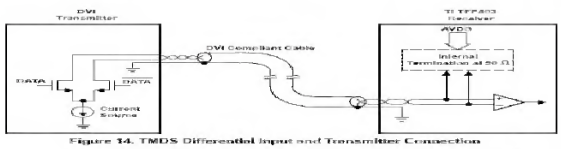


Figure 14. TMDS Differential Input and Transmitter Connection

Figure 15. TMDS Inputs

1.3.2.1 Video Signal Amplitudes

The three video inputs consist of Red , Green , and Blue signals, each with its own coaxial cable terminated at the monitor. These video signals are analog levels, where 0 V corresponds to black , and 700 mV is the maximum signal amplitude for the respective color, when each signal is terminated by a nominal 75.0 ohms .For a given monitor luminance levels are measured using this defined video amplitude driving a monitor meeting the termination requirements . The signal amplitude is not to be readjusted to compensate for variations in termination impendence.

1.3.2.2 Video Signal Termination Impedance

This analog video signal termination shall be 75 1% which shall be resistive with a negligible reactive component.

1.3.2.3 Synchronization (Sync) Signals

The Horizontal Sync (HS) TTL signal is used to initiate the display of a horizontal line. HS may be either active high or active low, depending upon the timing .The Vertical Sync (VS) TTL signal is used to initiate the display of a new frame .VS may be either active high or active low, depending on the timing .

1.3.2.4 Sync Signal Levels

The monitor must accept sync signals from both 3.3 and 5 volt TTL logic families.The inputs shall sense a logic 0 when the input is 0.8 volt or less and shall sense a logic 1 when the input is 2.0 volts or greater. In addition to these level requirements , there shall also be a minimum of 0.3 volt hysteresis provided for noise immunity (typically by using a Schmitt Trigger input). That is , the input level at which the monitor actually detects a logic 0 shall be at least 0.3 volt lower than the level at which it actually detects a logic 1.If the monitor sync processing circuits are designed around the 3.3 volt logic family ,then the sync inputs must be 5 volt tolerant .

1.3.2.5 Sync Signal Loading

TTL input loading shall be equivalent to one TTL input load. When logic 0 is asserted by a sync input , the maximum current source from any single monitor sync input to the driver is 1.6 mA .When logic 1 is asserted , the maximum current source from the driver to any single monitor sync input is 400 uA .

1.3.2.6 Abnormal Signal Immunity

The monitor shall not be damaged by improper sync timing , pulse duration , or absence of sync , or abnormal input signal amplitude (video and/ or sync too large or too small) , or any other anomalous behavior of a graphics card video generator when changing modes , or when any combination of input signals is removed or replaced . Additionally , under these conditions , the monitor shall not cause damage to the driving source .

1.3.3 User Controls and Indicators

1.3.3.1 Power On / Off Switch

The monitor shall have a power control switch visible and accessible on the front of the monitor The switch shall be marked with icons per IEC 417 , # 5007 and # 5009.The switch shall interrupt the DC supply to the monitor.

1.3.3.2 Power Indicator LED

The monitor shall make use of an LED type indicator located on the front of the monitor . The LED color shall indicate the power states as given in Table 1.

Table 1

Function	LED Color
Full Power	Blue color
Sleep	Orange color

1.3.3.3 On-Screen Display

The On Screen Display system shall be used, controlled by a Menu button. If the buttons remain untouched for OSD turn off time while displaying a menu, the firmware shall save the current adjustments and exit. Also, if the video controller changes video mode while the OSD is active, the current settings shall be save immediately, the OSD turn off, and new video mode is displayed.

Description

Key	When no OSD display	OSD Displayed
MENU	Menu Display	1 To display the OSD menu on the screen 2 To select the OSD sub-Menu
>	Speaker Volume/Plus (with Audio)	1 Back-forward selection of the OSD menu 2 Decrease the value after sub-menu selected
<	Speaker Volume/Minus (with Audio)	1 Forward selection of the OSD menu 2 Increase the value after sub-menu selected
Auto	Auto Adjust Function	Menu or sub menu auto adjust
e	Empowering	Menu or sub menu EXIT/Scenario mode

1.3.4 Monitor Modes and Timing Capability

1.3.4.1 Format and Timing

The monitor shall synchronize with any vertical frequency from 50 to 75 Hz , and with any horizontal frequency from 30 to 94KHz. If the input frequency is out of the above – specified range, the monitor shall display a warning screen indicating that the input frequency is out of range. Under no circumstances shall any combination of input signals cause any damage to the monitor .

1.3.4.2 Factory Assigned Display Modes

There are 22 factory pre-set frequency video modes. These modes have a factory pre-set for all characteristics affecting front-of-screen performance. When the system is powered on, previously stored screen parameters for a pre-defined mode will be recalled if the operating mode is one of those stored in memory. If the operating mode is not one of those stored in memory, the monitor CPU will select the PRESET timing for a mode that is the next lowest in horizontal scanning frequency to the mode being currently used. The screen parameters may be adjusted by the use of the front bezel controls and then may be saved as a user defined mode. The monitor shall include all the preset video timings shown in the following page.(Please see Note. (3))

1.3.4.3 Mode Recognition Pull-in

The monitor shall recognize preset modes within a range of 1KHz whichever is less for horizontal ; and within 1Hz for vertical.

1.3.4.4 User Display Modes

In addition to the factory pre-set video modes, provisions shall be made to store more than 9 user modes. If the current mode is a user mode, the monitor shall select its previously stored settings. If the user alters a setting, the new setting will be stored in the same user mode. The user modes are not affected by the pre-set command. If the input signal requires a new user mode, storage of the new format is automatically performed during user adjustment of the display (if required).

PRESET PC TIMINGS (ANALOG AND DIGITAL INPUTS)

Item	Resolution	H-Sync (kHz)	V-sync (Hz)	Band Width (MHz)	Polarity H	Polarity V	Source
1	640 480	31.5	60	25.175	-	-	VGA
2	640 480	35	67	30.24	-	-	MAC
3	640 480	37.9	72	31.5	-	-	VESA
4	720 400	31.5	70	28.322	-	+	VGA
5	800 600	35.2	56	36	+	+	VESA
6	800 600	37.9	60	40	+	+	VESA
7	800 600	48.1	72	50	+	+	VESA
8	1024 x 600	37.3	60	49	-	+	CVT
9	1024 768	48.4	60	65	-	-	VESA
10	1024 768	56.5	70	75	-	-	VESA
11	1152 864	67.5	75	108	+	+	VESA
12	1280 720	44.9	60	74.17	+	+	VESA
13	1280 800	49.7	60	83.5	-	+	CVT
14	1280 960	60	60	108	+	+	VESA
15	1280 1024	64	60	108	+	+	VESA
16	1360 768	47.7	60	85.5	+	+	VESA
17	1440 900	55.9	60	106.5	-	+	CVT
18	1600 1200	75	60	162	+	+	VESA
19	1680 1050	65.3	60	146.25	-	+	CVT
20	1920 1080	67.2	60	173	-	+	CVT
21	1920 1080	67.5	60	148.5	+	+	CEA
22	1920 1080	66.6	60	138.5	+	-	CVT-RB

PRESET VIDEO TIMING(DIGITAL INPUT)

CEA 861 code	H Active	V Active	I/P	H-Total	H Back Porch	H Width	V Total	V Back Porch	V Width	H Freq (kHz)	V Freq (Hz)	P Freq (MHz)	Pol H	Pol V
1	640	480	P	800	48	96	525	33	2	31.5	60	25.2		
2,3	720	480	P	858	60	62	525	30	6	31.5	60	27.027		
4	1280	720	P	1650	220	40	750	20	5	45	60	74.25	+	+
5	1920	1080	I	2200	148	44	1125	15	5	33.75	60	74.25	+	+
16	1920	1080	P	2200	148	44	1125	36	5	67.5	60	148.5	+	+
17,18	720	576	P	864	68	64	625	39	5	31.25	50	27		
19	1280	720	P	1980	220	40	750	20	5	37.5	50	74.25	+	+
20	1920	1080	I	2640	148	44	1125	15	5	28.125	50	74.25	+	+
31	1920	1080	P	2640	148	44	1125	36	5	56.25	50	148.5	+	+

Analog input (VGA) treats all timings as PC-timings.

1.3.5 Controller Requirements

1.3.5.1 General Requirements

The monitor shall include a controller capable of converting the analog RGB signal from a standard 1920x1080 resolution video controller in the CPU to a signal which can be displayed on the panel. The controller will include a PLL,A/D converters, LVDS transmitter and other circuitry necessary to perform its function. The PLL shall be stable enough to ensure that a static image from the CPU is placed in the same physical location on the flat panel in each frame.

1.3.5.2 Video Stretching

The monitor shall contain provisions to "stretch" the video signal, so that an input signal from the computer in any resolution smaller than 1920 x 1080 is automatically expanded to fill the entire screen.

1.3.5.3 Panel Timing and Interface

The controller supplied with the monitor shall control all panel timing. This controller shall adequately insulate the monitor from the computer, so that no possible combination of input signals from the computer shall cause damage to the flat panel or any other component of the monitor. The LCD panel interface shall support the TFT standard

1.3.6 DC - AC Inverter Requirements

The DC-AC inverter is on the power board. The frequencies used by the DC-AC inverter used to power the backlight shall be chosen so as to prevent any noticeable effects on the flat panel (such as a rolling effect)

1.3.7 Power Supply Requirements

The AC to DC converter power supply for the monitor shall be an external AC to DC converter "brick" This brick shall have an IEC receptacle for main power input and a pin - in ---socket for DC power out. The brick shall provide sufficient power for both the monitor and the backlight assembly, and shall meet requirements specified in Table 2.

Table 2
AC to DC Converter Requirements

Input Voltage Range	The operating range shall be from 90 to 132 and 195 to 265 AVC sinusoidal for all models specified
Input Frequency Range	Input power frequency range shall be from 47.5 to 63 Hz over the specified input voltage range
Power Consumption	Power consumption for the monitor shall be less than 55W over the specified voltage and frequency ranges. In suspend or sleep mode the power consumption will be less than 2W
Line Fuse	The AC input shall be fused and become electrically open as a result on an unsafe current level. The fuse many not be user replaceable
Initial Cold Start	The power supply shall start and function properly when under full load, with worst case conditions of input voltage, input frequency, operating temperature, and cold backlight lamps
Inrush Current	The inrush current must be limited to 30A when operated at 120VAC and 50A when operated at 220VAC. Inrush current is measured at an ambient temperature of 25°C, with the unit temperature stabilized in the power-off
Hot Start Cycle	The power supply shall be damaged when switched ON for one second and OFF for one second for seven consecutive after operating for one hour at full load, 25°C, and nominal input line voltage
Under Voltage	The power supply shall contain protection circuitry such that the application of an input voltage below the minimum specified in this table shall not cause damage to the power supply unit nor cause failure of the input
Line Transient	The power supply shall operate within IEC 801-4 (± 1KV) and IEC 801-5 (± 2KV) for the domestic U.S. version. The UPS power supply shall operate and comply with CE mark

1.3.8 Display Communications Channel

The monitor assembly shall provide a display communications channel that conforms to VESA DDC2Bi hardware requirements. This configuration shall contain the 128-byte or 256-byte EDID file as specified by VESA EDID standard. The monitor should not write to the EDID file for the first two minutes of operation following power-up UNLESS some action taken by the user or the host CPU forces the write (for instance, requesting the serial number via the OSD). Furthermore, it is recommended that CMOS switches be incorporated to isolate the DDC IC from outside connections while the EDID Fault Management is being updated. This is to prevent corruption of the data by attempts to read the data while it is being changed.

1.3.9 Firmware Update Function (same ISP function)

The update firmware need through from the D-Sub connector, use DDC I2C bus to do update firmware.

1.4. ELECTRICAL

1.4.1 General Requirements

The panel used as the display device shall be an 1920x1080 resolution 23W, TFT LCD. This panel shall be approved for use in this monitor.

1.4.2 Panel Timings

The controller included with the monitor shall translate all video timings from the CPU that meet the timing requirements listed in Panel specification into timings appropriate for the panel. Under no circumstances may the controller supply the panel with timings that may result in damage . The controller shall insulate the panel from the CPU , so that the panel shall always be driven per it's own specification regardless of the timings being sent from the CPU.

1.4.3.Polarizer Hardness

The outer face of the front polarizer panel shall be covered with a coating with a # 3 hardness value .

1.4.4 Backlight Requirements

1.4.4.1 General Requirements

The backlight assembly shall be designed to support field replacement at the customer site or authorized service center.The lamps shall have a continuous operating life of at least 50,000 hours at 25 . The operating life is defined as having ended when the illumination of light has reached 50% of the initial value. The lamps shall extend a sufficient amount from the edge of the light guide that sputtering over the life of the lamps shall not cause degradation of the luminance uniformity (such as non-illuminated bands along the edges of the display)

1.4.4.2 Lamps Startup Time

The backlight lamps shall start about 2 sec of the time the monitor power switch is pressed or the monitor is restarted from a power - down mode. The starting time shall stay about 2 sec. for the minimum expected life of the lamps.

Test conditions are as follows :

Ambient Light ----------	< 1 0 lux
Temperature----------	10
Inactive Time ----------	> 24 hours

1.4.5 Defects

1.4.5.1Visual Inspection

The LCD panel shall be inspected with all pixels set to white, black, red , green , and blue. The color variation, brightness variation , and overall appearance must not be perceived as poor quality . Areas and / or parameters considered questionable shall be subjected to detailed measurements .

1.4.5.2 Display Degradation

Over the life of the product , variation of the parameters specified in Panel specification shall be maintained within reasonable limits. The panel must not exhibit any significant defects while in operation (excluding the CCFL operation).This does not in any way change the warranty given by the panel manufacturer

1.4.5.3 Light Leakage

Except for the active display area , there shall be no light emission visible from any angle from any other part of the display . For this test , the ambient illumination must follow panel's specification.

1 4 5.4 Allowable Defects

No cosmetic defects are allowed except those specified below. The conditions of visual inspections are as follows

Viewing distance is to be approximately 35-50cm

Ambient illumination is to be 300 to 700 lux. Viewing angle shall be at 90 degree. Defects not apparent within one minute shall be ignored.

1 4 5.5 Defect Terminology

Table 3 gives the descriptive terms used in classifying defects

Table 3

Dark / Spots / Lines	Spots or lines that appear dark in the display patterns and are usually the result of contaminations. Defects do not vary in size or intensity (contrast) when contrast voltage is varied. Contrast variation can be achieved through the use of varying gray shade patterns
Bright Spots / Lines	Spots or lines that appear light in the display patterns. Defects do not vary in size or intensity (contrast) when contrast voltage is varied. Contrast variation can be achieved through the use of varying gray shade patterns
Polarizer Scratch	When the unit lights, lines appear light (white) with display patterns dark and do not vary in size. Physical damage to the polarizer that does not damage the glass
Polarizer Dent	When the unit lights, spots appear light (white) with display patterns dark and do not vary in size. Physical damage to the polarizer that does not damage the glass
Rubbing Line	Horizontal or diagonal lines that appear gray with the display patterns dark and may have resulted from an "out of control" rubbing process on the polyimide or "waves" on the BEFs or prism sheets
Newton Ring	The 'rainbow" effect caused by non-uniform cell thickness
Mottling	When the unit lights, variation / non – uniformity (splotchiness) appears light (white) with the display and might vary in size
Dim Line	When the unit lights, line(s) in the monitor (vertical) or major (horizontal) axis appear dim, but not completely on or off
Cross Lines Off	When the unit lights, lines in both the minor and major axis do not appear
Bright / Dark Dot	A sub – pixel (R,G,B dot) stuck off / on (electrical)

1.4 5 6 Smudges, Streaks and Smears

When viewing the panel oriented so as to maximize reflected light, there shall be no visible smudging, streaking, smearing or other non-uniformity from contaminants, fingerprints, or defects in any of the visible surfaces. This is independent of whether the unit is operating or off.

1.4 5 7 Other Defects

Undefined defects that are considered to be rejectable will be reviewed as they become apparent. These panels will be referred to the Corporate / Manufacturer Purchasing Agreement for disposition

1.4 5 8 LCD Inspection

Put LCD panel on inspection table and illuminate the panel with a daylight fluorescent lamp located above the panel surface such that the luminance at the LCD panel is between 1000 lux and 1500 lux. Defect limits are given in Table 4.

Table 4

Average Diameter smaller of (L+W)/2 or L/20+2W	Acceptable Number	Minimum Separation
< 0.1mm	Non countable	N / A
0.1 mm ~ 0.3 mm	10	15 mm
0.31 mm ~ 0.5 mm	10	15 mm
0.51 mm ~ 1.25 mm	5	15 mm
1.26 mm ~ 2.5 mm	3	25.4 mm
2.51 mm ~ 3.75 mm	3	25.4 mm
Greater than 3.75 mm	NONE	Not applicable

Note: Allowable distance between spots of two sizes is the minimum separation number for the smaller spot. Therefore, if there are two spots, 1.30mm and 0.4mm in diameter, they must be at least 15mm apart

1.5 Optical Characteristics

Depends on the LCD supplier's spec. Details refer to QA Inspection Spec

MAIN OSD MENU(1A and 1A1D)

Outline:

I. Only Analog Input Model

II. Only Dual Input Model

The description for control function:

Main Menu Icon	Sub Menu Icon	Sub Menu Item	Description
		Contrast	Adjust the contrast between the foreground and background of the screen image
		Brightness	Adjust the background brightness of the screen image
		ACM	ACM (Adaptive Contrast Management)/ACM ON/OFF Switch, default "OFF"
		Focus	Adjust picture Focus (available in analog mode only)
		Clock	Adjust picture Clock (available in analog mode only)

Main Menu Icon	Sub Menu Icon	Sub Menu Item	Description
		H. Position	Adjust the horizontal position (available in Analog mode only)
		V. Position	Adjust the vertical position (available in Analog mode only)
	N/A	Warm	Set the color temperature to warm white
	N/A	Cool	Set the color temperature to cool white
	R	User /Red	Adjusts Red/Green/Blue intensity
		User /Green	
	B	User /Blue	
	N/A	English	Multi-language selection
	N/A	繁體中文	
	N/A	Deutsch	
	N/A	Français	
	N/A	Español	
	N/A	Italiano	
	N/A	简体中文	
	N/A	日本語	
	N/A	Svenska	EMEA version OSD only
	N/A	Nederlands	
	N/A	Русский	

Main Menu Icon	Sub Menu Icon	Sub Menu Item	Description
		H. Position	Adjust the horizontal position of the OSD
		V. Position	Adjust the vertical position of the OSD
		OSD Timeout	Adjust the OSD timeout
	N/A	Analog	Select input signal from analog (D-Sub)
	N/A	Digital (only Dual-InputModel)	Select input signal from digital(DVI) (only Dual-Input Model)
	N/A	DDC/CI	Turn ON/OFF DDC/CI support
	N/A	Information	Show the resolution, H/V frequency and input port of current input timing
	N/A	Reset	Clear each old status of Auto-configuration and set the color temperature to Cool
	N/A	Exit	Save user adjustment and OSD disappear

Hot-Key Menu

Outline: (With Audio Function)

The description for Hot-Key function:

Item	Operation	Icon	Description	Adjustment Range	Reset Value
Volume	When the OSD is Closed,Press left or right button will be Volume Hot-Key Function		Volume of Audio adjustment The Audio will be Mute when Volume=0	0-100	50

OSD Message

Outline:

The description for OSD Message:

Item	Description
Auto config please wait	When user press Hot-Key "Auto" will show this message, and the monitor do the auto config function.
Input Not Suported	When the H sync Frequency, V sync Frequency or Resolution is out of the monitor support range, will show this meseage. This message will be flying
Cable Not Connected	When the Video cable is not connected, will show this message. his message will be flying
No Signal	When the Video cable is connected, but it is no active signal input, will show this message, then enter power saving.

scenario mode

- User mode
- Text mode
- Standard mode
- Graphics mode
- Movie mode

Final Spec

mode	contrast (OSD)	brightness (OSD)
standard	50 (slope : 1)	77 (slope : 1)
text	50 (slope : 1)	44 (slope : 1)
graphics	40 (slope : 0.4)	77 (slope : 1)
movie	55 (slope : 0.25)	77 (slope : 1)

Operation Method

Step1:
Press " key " to initial scenario mode

Step2:
press " < or > " to select the mode you want
(different mode will show different color instantly)
(select operation only left and right, not cyclic)

Step3:
If user have NO action after Step2
OSD will disappear after 10 sec and do "auto scan"
(now the mode will keep original one, no change)

If user press " key " after Step2
it means user confirm the chosen mode and monitor will do "auto scan" as well
(then the mode is the chosen one)

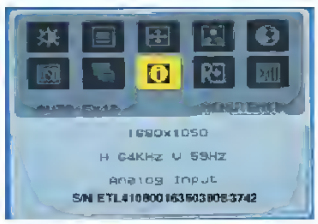
DCC/CI switch in OSD

For Dual Input Model For Analog only Model

Remark:

1. The DDC/CI switch, default is "ON" in monitor.
2. For Analog only Model, use icon to instead of icon in OSD

Display Serial Number in OSD



Remark:

The SN data source can be retrieved from EDID

AppendixA

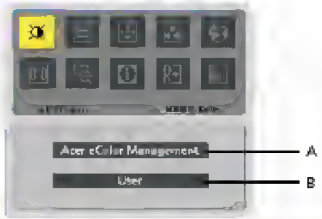
*Multiple Language

8 language contrastive table

English	Deutsch	Español	简体中文	繁體中文	Français	Italiano	日本語
Content	Anzeige	Ubicación	内容	内容	Contenido	Contenuto	コンテンツ
Brightness	Helligkeit	Brillo	亮度	亮度	Luminosité	Luminosità	輝度
Focus	Fokus	Nitidez	焦点	焦点	Netteté	Nitidezza	フォーカス
Clock	Takt	Reloj	时序	時脈	Fréquence	Orologio	クロック
Warm	Warm	Cálido	暖色调	暖色調	Chaud	Caldo	暖色
Cool	Kalt	Frío	冷色调	冷色調	Froid	Freddo	寒色
User	Anwender	Usuario	用户色彩设定	使用者調整	Utilisateur	Utente	カスタムカラー
Red	Rot	Rojo	红色	紅色	Rouge	Rosso	赤
Green	Grün	Verde	绿色	綠色	Vert	Verde	緑
Blue	Blau	Azul	蓝色	藍色	Bleu	Blu	青
English	Englisch	English	English	English	English	English	English
H. Position	H. Position	H. Posición	水平位置	水平位置	H. Position	O. Posizione	水平位置
V. Position	V. Position	V. Posición	垂直位置	垂直位置	V. Position	V. Posizione	垂直位置
OSD Timeout	OSD Timeout	Tiempo límite OSD	OSD 选单时间设定	OSD 選單時間設定	Délai de l'OSD	Durata di visualizzazione OSD	OSD 表示時間設定
Analog	Analog	Analógico	模拟	類比	Analogique	Analogico	アナログ
Digital	Digital	Digital	数位	數位	Numérique	Digitale	デジタル
Reset	Zurücksetzen	Restablecer	恢复出厂设定	恢復出廠設定	Réinitialiser	Ripristina	リセット
Exit	Beenden	Salida	退出菜单	退出選單	Quitter	Uscita	終了
AUTO Exit	AUTO Beenden	AUTO Salida	AUTO 退出离开	AUTO 退出離開	AUTO Quitter	AUTO Uscita	AUTO 終了
AUTO Return	AUTO Zurück	AUTO Volver	AUTO 返回	AUTO 返回	AUTO Retour	AUTO Ritorno	AUTO 戻る
Volume	Lautstärke	Volumen	音量	音量	Volume	Volume	音量
No Signal	Kein Signal	Sin señal	无讯号	無信號	Pas de signal	Assenza segnale	入力信号を確認してください
Auto Config	Autom. Abgl.	Autoajuste	自动调整	自動調整	Autoréglage	Autoregolazione	自動調整
MENU Enter	MENU Eingabe	MENÚ Introducir	MENU 键入	MENU 進入	MENU Entrez	MENU Invio	MENU 確定
MENU Return	MENU Zurück	MENÚ Salida	MENU 返回	MENU 返回	MENU Retour	MENU Ritorno	MENU 戻る
Input Not	Frequenzbereich	Frecuencia no	输入	超出範圍	Fréquence non	Frequenza non	ビデオ信号がありません
Supported	unterstützt	soportadas	不支援	輸入訊號	supportée	supportata	サポートしません
Connected	ordnen* lassen	Conectado	连接	連接	connecté	connesso	接続されました
Cable Not	Leitung nicht	Cable no	信号线未接	信號線未	Câble non	Cavo non	ケーブルが接続されていません
Please Wait	Bitte warten	Espere por favor	请等待	請等待	veuillez patienter	Attendere prego	少々お待ちください
Digital Input	Digital Eingang	Digital Entrada	数位输入	數位輸入	Numérique Entrée	Digitale Input	デジタル入力
Analog Input	Analog Eingang	Analógico Entrada	模拟输入	類比輸入	Analogique Entrée	Analogico Input	アナログ入力
User	Anwender	Usuario	使用者	使用者	Utilisateur	Utente	ユーザー
Text	Text	Texto	文本	文字	Texte	Testo	テキスト
Standard	Standard	Estándar	标准	標準	Standard	Standard	標準
Graphics	Grafiken	Gráficos	图形	圖像	Images	Grafica	グラフィックス
Movie	Film	Película	视频	影像	Film	Film	動画
AUTO Adjust/Exit	AUTO Anpassen/beenden	AUTO Ajustar/salir	AUTO 调节/退出	AUTO 調整/結束	AUTO Ajuster/Quitter	AUTO Regolo/Esci	AUTO 調整/終了
↔ Select	↔ Selektieren	↔ Seleccionar	↔ 选取	↔ 選擇	↔ Sélectionner	↔ Seleziona	↔ 選択

MAIN OSD MENU(1A1D1H)

Outline:



Analog input mode

Digital/HDMI input mode

The description for control function

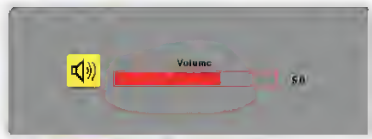
Main Menu Icon	Sub Menu Icon	Sub Menu Item	Description
		Contrast	Adjust the contrast between the foreground and background of the screen image
		Brightness	Adjust the background brightness of the screen image
		ACM	ACM (Adaptive Contrast Management)A CM ON/OFF Switch, default "OFF"
		Focus	Adjust picture Focus (available in analog mode only)
		Clock	Adjust picture Clock (available in analog mode only)

Main Menu Icon	Sub Menu Icon	Sub Menu Item	Description
		H Position	Adjust the horizontal position (available in Analog mode only)
		V Position	Adjust the vertical position (available in Analog mode only)
	N/A	Warm	Set the color temperature to warm white
	N/A	Cool	Set the color temperature to cool white
		User /Red	Adjusts Red/Green/Blue intensity
		User /Green	
		User /Blue	
	N/A	English	Multi-language selection
	N/A	繁體中文	
	N/A	Deutsch	
	N/A	Francais	
	N/A	Espanol	
	N/A	Italiano	
	N/A	简体中文	
	N/A	日本語	
	N/A	Suomi	EMEA version OSD only
	N/A	Nederlands	
	N/A	Русский	

Main Menu Icon	Sub Menu Icon	Sub Menu Item	Description
		H Position	Adjust the horizontal position of the OSD.
		V Position	Adjust the vertical position of the OSD
		OSD Timeout	Adjust the OSD timeout.
	N/A	Analog	Select input signal from analog (D-Sub)
	N/A	Digital (only Dual-InputModel)	Select input signal from digital(DVI) (only Dual-Input Model)
	N/A	DDCCI	Turn ON/OFF DDC/CI support
	N/A	Information	Show the resolution, H/V frequency andinput port of current input timing
	N/A	Reset	Clear each old status of Auto-configurationand set the color temperature to Cool
	N/A	Exit	Save user adjustment and OSD disappear.

Hot-Key Menu

Outline: (With Audio Function)



The description for Hot-Key function:

Item	Operation	Icon	Description	Adjustment Range	Reset Value
Volume	When the OSD is Closed,Press left or right button will be Volume Hot-Key Function		Volume of Audio adjustment The Audio will be Mute when Volume=0	0-100	50

OSD Message

Outline:

The description for OSD Message:

Item	Description
Auto config please wait	When user press Hot-Key "Auto" will show this message, and the monitor do the auto config function
Input Not Suported	When the H sync Frequency, V sync Frequency or Resolution is out of the monitor support range, will show this message. This message will be flying
Cable Not Connected	When the Video cable is not connected, will show this message. his message will be flying.
No Signal	When the Video cable is connected, but it is no active signal input will show this message, then enter power saving

scenario mode

- User mode
- Text mode
- Standard mode
- Graphics mode
- Movie mode

Final Spec

mode	contrast (OSD)	brightness (OSD)
standard	50 (slope 1)	77 (80%)
text	50 (slope 1)	44 (61%)
graphic	50 (slope 1.04)	57 (68%)
movie	50 (slope 1.025)	77 (80%)

Operation Method

Step1:
Press " key " to initial scenario mode

Step2:
press " < or > " to select the mode you want
(different mode will show different color instantly)
(select operation only left and right, not cyclic)

Step3:
If user have NO action after Step2
OSD will disappear after 10 sec and do "auto scan"
(now the mode will keep original one, no change)

If user press " key " after Step2
It means user confirm the chosen mode and monitor will do "auto scan" as well
(then the mode is the chosen one)

DDC/CI Switch in OSD

Remark:

1. The DDC/CI switch, default is "ON" in monitor.

Display Serial Number in OSD

Appendix

* Multiple Language

Length limit	1.English (英語)	2.Russian (俄語)	3.Deutsch (德語)	4.Français (法語)	5.Español (西班牙語)	6.Italiano (意大利語)	7.Dutch (荷蘭語)	8.Finnish (芬蘭語)
	Picture	Изобрaж.	Bild	Image	Imagen	Immagine	Beeld	Kuva
13	Brightness	Яркость	Helligkeit	Luminosité	Brillo	Luminosità	Helderheid	Kirkkaus
13	Contrast	Контрастность	Kontrast	Contraste	Contraste	Contrasto	Contrast	Kontrasti
13	H.Position	Полож. по гориз.	H.Position	H.Position	H.Posición	H.Posizione	H.Positie	H. positio
13	V.Position	Полож. по верт.	V.Position	V.Position	V.Posición	V.Posizione	V.Positie	V. positio
13	Focus	Фокусировка	Fokus	Netteté	Nitidez	Nitidezza	Scherpstelling	Tarkennus
13	Clock	Частота	Takt	Fréquence	Reloj	Orologio	Klok	Taajuus
	Color Temp.	Цвет темп.	Farbtemp.	Temp. Couleur	Temp. Color	Temp. Colore	Kleurtemp.	Värin lämpötilaryl
13	Warm	Теплый	Warm	Chaud	Cálida	Calda	Warm	Lämmin
13	Cool	Холодный	Kalt	Froid	Fría	Fredda	Koel	Viileä
13	User	Пользоват	Anwender	Utilisateur	Usuario	Utente	Gebruiker	Käyttäjä
13	Red	Красный	Rot	Rouge	Roja	Rossa	Rood	Punainen
13	Green	Зеленый	Grün	Vert	Verde	Verde	Groen	Vihreä
13	Blue	Синий	Blau	Bleu	Azul	Blu	Blauw	Sininen
13	Auto Config	Автонастройка	Autom. Abgl.	Autoréglage	Autoajuste	autoregolazione	Autom. configuratie	Autom. sovitus

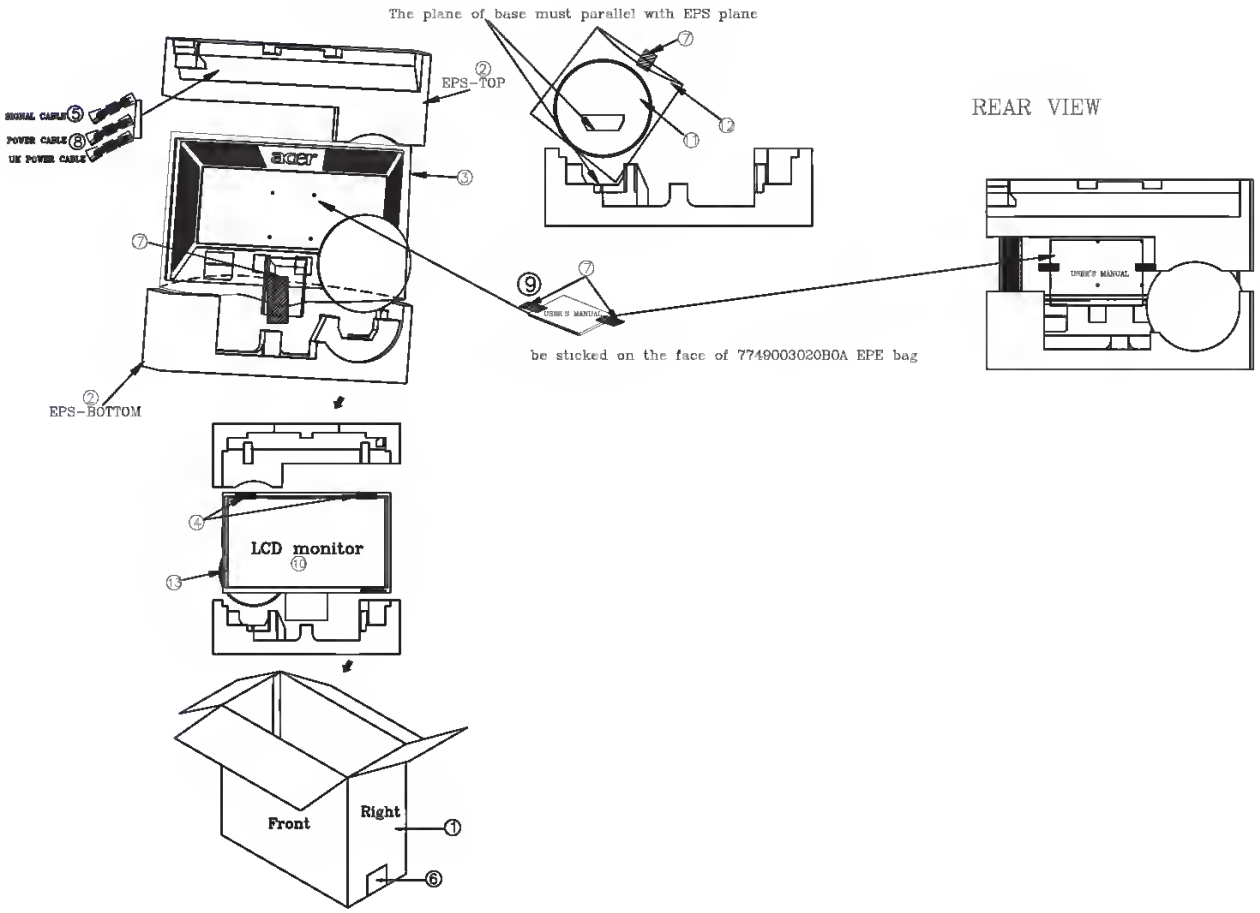
13	OSD Timeout	Вр. откл. Меню	OSD-Dauer	Délai de l'OSD	T de espera OSD	Intervallo OSD	Time-out OSD	Aikakatkaisu
	Setting	Настр.	Einstellung	Réglages	Configuración	Impostazione	Instelling	Asetus
	Wide Mode	Широкоэкр. реж.	Breitformat	Mode Large	Modo panorámico	Schermo intero	Breedbeeldweergave	Laajakuva
	Full	Полное	Vollbild	Plein écran	Completa	Piena	Volledig	Täyskuva
	Aspect	Aspect						
13	Input	Вход	Eingang	Entrée	Entrada	Input	Ingang	Tulo
	Language	Язык	Sprache	Langue	Idioma	Lingua	Taal	Kieli
13	Reset	Сброс	Rücksetzen	Restaurer	Reinicio	Ripristino	Opn.instellen	Nollaus
13	Please Wait	Подождите	Bitte warten	Veuillez patienter	Espere, por favor	Attendere prego	Een ogenblik geduld	Odota
	Information	Информация	Info	Informations	Información	Informazioni	Informatie	Informaatio
13	Exit	Выход	Beenden	Quitter	Salida	Uscita	Afsluiten	Lopeta
13	Return	Возврат	Zurück	Retour	Volver	Ritorno	Terug	Paluu
13	Enter	Ввод	Eingabe	Entrer	Introducir	Invio	Enter	Syötä
	Move	Перем.	Bewg.	Déplac.	Mover	Muovi	Vlugt.	Liiku

13	Volume	Громкость	Lautstärke	Volume	Volumen	Volume	Volume	Äänenvoimakkuus
13	Analog	Аналоговый	Analog	Analogique	Analógico	Analogico	Analoog	Analoginen
13	Digital	Цифровой	Digital	Numérique	Digital	Digitale	Digitaal	Digitaalinen
13	Message Menu							
no limit	Auto Config Please Wait	Автонастройка, подождите...	Autom. Abgl. Bitte warten	Autoréglage Veuillez patienter	Autoajuste Espere, por favor	Autoregolazione Attendere prego	Even met automatische configuratie, een ogenblik geduld	Autom. sovitus Odota
no limit	Cable Not Connected	Кабель не подключен	Leitung nicht angeschlossen	Câble non connecté	Cable no conectado	Cavo non collegato	Kabel niet aangesloten	Kaapeli ei liitetty
no limit	Input Not Supported	Вход не поддерживается	Frequenz nicht unterstützt	Fréquences non supportées	Frecuencias no soportadas	Frequenza non supportata	Ingang niet ondersteund	Tulo ei tuota
no limit	No Signal	Нет сигнала	Kein Signal	Pas de signal	Sin señal	Nessun segnale	Geen signaal	Ei signaalia
	ON	Вкл	EIN	Allumé	ACTIVADO	ATTIVA	Aan	PÄÄLLÄ
	OFF	Выкл	Aus	Désactivé	Apagado	Spenta	Uit	Pois päältä

Acer eColor Management OSD

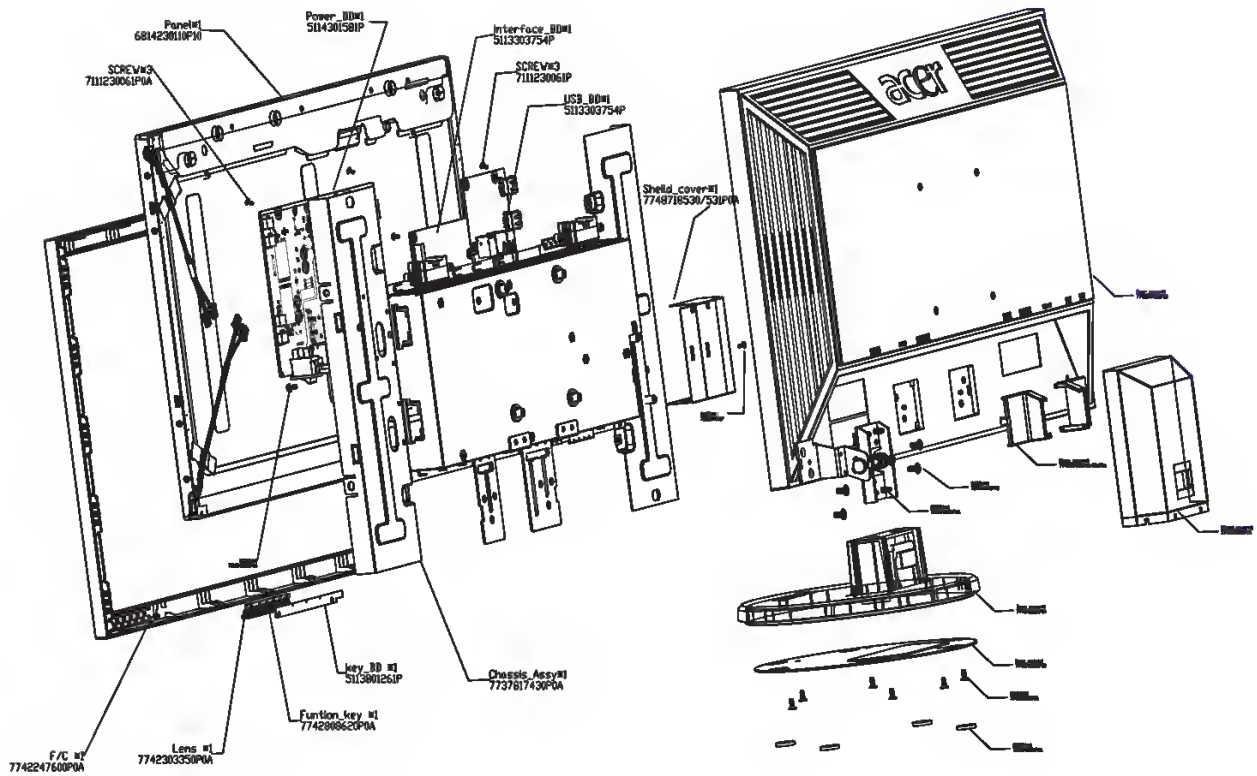
UK	Russian	Ger	Fra	Spa	Ita	Dutch	Finnish
Standard	Стандарт	Standard	Standard	Estándar	Standard	Standaard	Vakio
Text	Текст	Text	Texte	Texto	Testo	Tekst	Teksti
Graphics	Настраиваемый	Grafiken	Images	Gráficos	Grafica	Grafische	Grafiikka
Movie	Кино	Spielfilm	Film	Película	Film	Film	Elokuva
User	Пользователя	Benutzer	Utilisateur	Usuario	Utente	Gebruiker	Käyttäjä
Adjust/Exit	Настроить/Выход	Abstimmen/Beenden	Ajuster/Quitter	Ajuste/salir	Regola/Esci	Aanpassen/verlaten	Säädä/Lopeta
Select	Выбор	Auswahl	Sélectionner	Seleccionar	Seleziona	Selecteren	Valitse

3.1 Packing Exploded Diagram



ITEM	QT'Y	PART NO	DESCRIPTON	DRAW NO	REMARK
①	1	774920xxxxP0A	CARTON	834000XXXX	
②	1	7749107710P0A	EPS-TOP EPS-BOTTOM		
③	1	7749003020B0A	EPE BAG		LCD MONITOR
④	0.004	7749600770P0A	TAPE		25mm(W)
⑤	1	7749000200P0D	P E BAG	8440000038	SIGNAL CABLE
⑥	0.002	7749600850P0A	TAPE	8440006267	914M
⑦	0.035	7749600200P0A	TAPE	8440004216	25mm(W)
⑧	1	7740100200P	WIRING TIES	8440000046	250x2.5mm
⑨	1		USER'S MANUAL		
⑩	1		LCD MONITOR		
⑪	1		BASE		
⑫	1	7749003200P0A	P E BAG	8440006561	BASE
⑬	1	773020xxxxP0A	Screen protector		

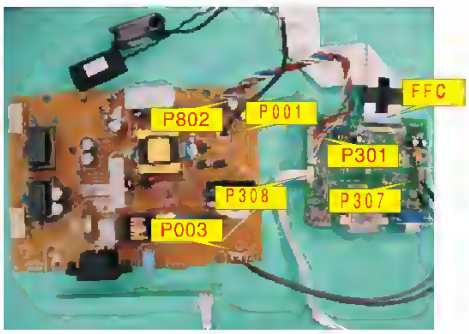
3.2 Product Exploded Diagram



4.1 Assembly procedures:

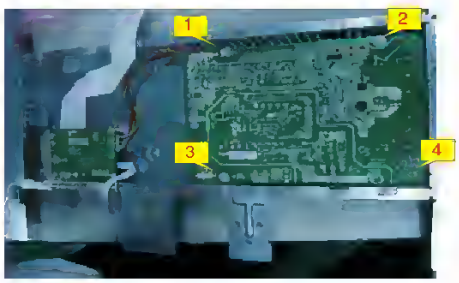
S1

Connect the cable between power board(P802) and interface board (P301)
Connect the cable between power board(P003) and interface board(P307)
Connect the function key cable into interface board(P308)
Connect speak cable into power board(P001)
Connect the FFC cable into interface board



S2

Use a Phillips-head screwdriver screwed the No.1~4 screws till that power board and bracket chassis base firmly attached.(No1~3 screw size=M3x6; No4 screw size=M4x8; Torque=9~10KGFxCM).



S3

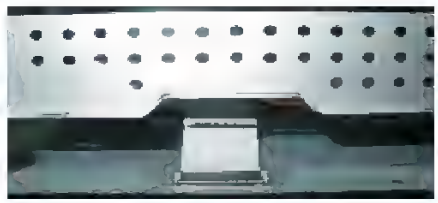
Use a Phillips-head screwdriver screwed the No.1~2 screws till that interface board and bracket chassis base firmly attached.
(No1~2 screw size=M3x6; Torque=9~10KGFxCM).

S4

Fix the speaker and speaker cable, The white line in the left ,the red line in the right

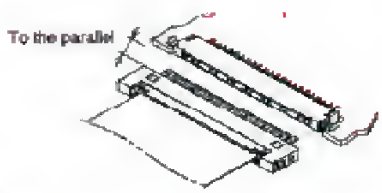
S5

Turn the monitor faced down and put it on the bracket chassis module till both parts firmly Connect FFC cable to LCD panel. There are two locks over here when plugging in should be noticed.



Plug in parallel direction

Angel < 5 degrees



S6

Take lamp cables out from the holes shown as the photo.

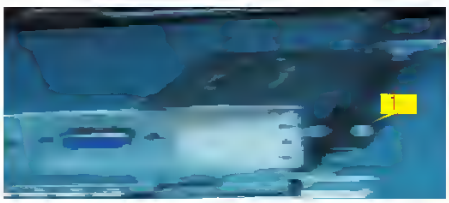
S 7 Plug 2 lamp cables to the connectors of inverter board.

S 8 Use a Hex-head screwdriver screwed the DVI and D-SUB connectors (No.1~4 Hex Nut screws Size=M3x8;Torque=4.5~6 5KGFxCM).

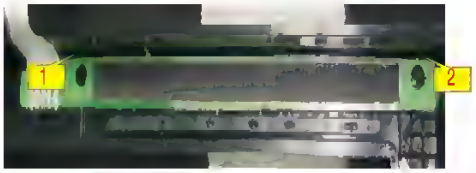
S 9 Use a Phillips-head screwdriver screw 4 screws (No1~4 Screw Size=M3x5; Torque=2.5~3KGFxCM).

S 10 Use a Phillips-head screwdriver screw 2 screws (No1~2 Screw Size=M3x10; Torque=7.5~9.5 KGFxCM).

S 11 Use a Phillips-head screwdriver screw 1 screws (No1 Screw Size=M3x6; Torque=2.5~3KGFxCM).

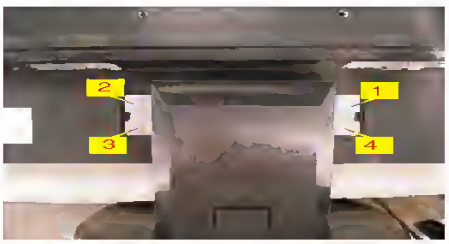


S12 Take a key function board to hook with front bezel and Use a Phillips-head screwdriver screw 2 screws.
(No1~2 Screw Size=M0.9x1; Torque=0.9~1.1KGFxCM).



S13 Put a rear cover on the assembled unit and press on force mechanisms locked and firmly attached.

S14 Assemble the stand upper side to the rear cover through the way of screwing 4 screws till both units firmly attached.
(No1~4 Screw Size=M4x8; Torque=6+/-1 KGFxCM).

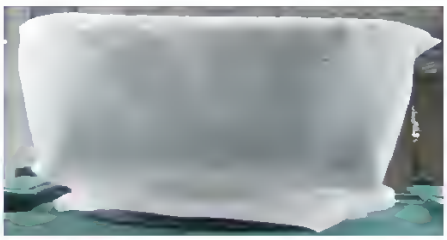


S15 Assemble the hinge cover into both two sides.

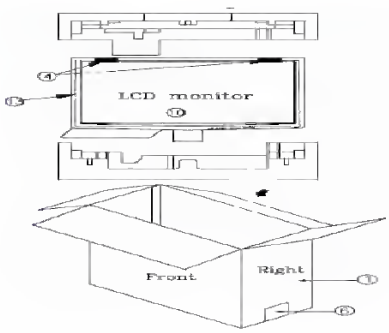
S16 Stick a screen card on the front bezel with two tapes.

S17 Stick Vista and TC003 label on the correct position the same as below photo

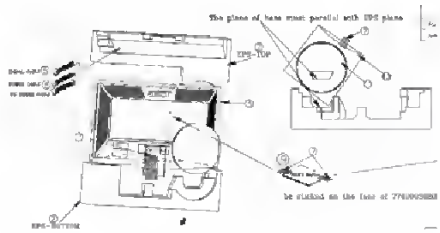
S18 Take a LDPE+EPE bag to cover the LCD monitor.



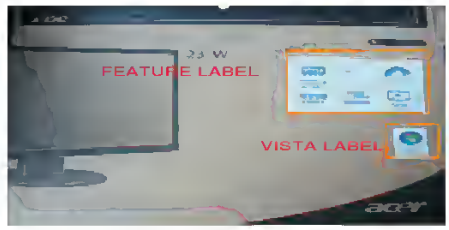
S19 Take two cushion foams; one is held the top side of LCD monitor, and another is held the bottom side.



S20 Put accessories of stand, DVI cable, and user's manual ,power cable on specific positions as photo below.



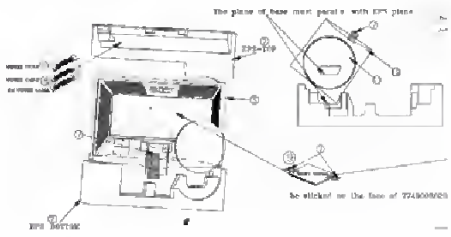
S21 Move previous assembled parts into the carton then stick Vista and feature label on the carton then packing the carton



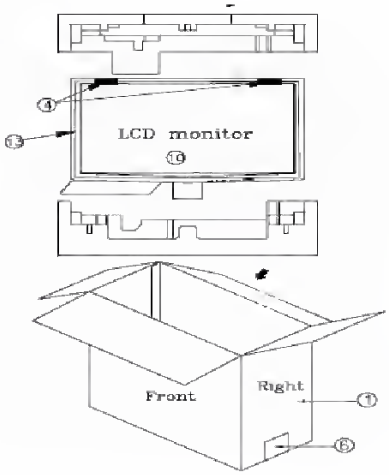
4.2 Disassembly procedures

S1 Open the carton with a proper tool.

S2 Take out all accessories including D-SUB cable power cable, DVI cables, user's manual, and packing material from the carton. (Note: It depends on whether users returning the accessories.)



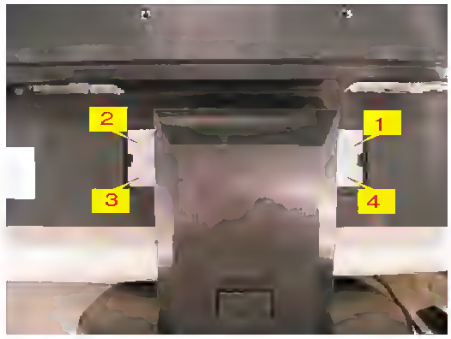
S3 Take off two cushion foams



S4 Put returned unit on a protective cushion,then remove LDPE+EPE bag.
Tear off tapes to remove the screen protector card then turn over the LCD monitor (screen faced down),

S5 Disassemble the stand cover.

S6 Use a Phillips-head screwdriver unscrew 4 screws to release the stand base.
(No1~4 Screw Size=M4x8; Torque=12±1KGFxCM).

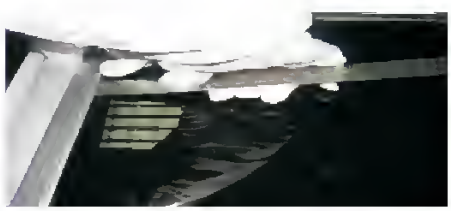


S7 Put the dissembled monitor closed to by myself

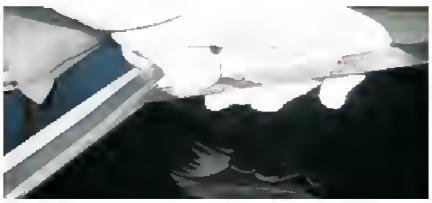
S8 Turn over the LCD monitor (screen faced up)

S9 W edge your finger between the front bezel and the panel, then pry up on the front bezel to disengage the locking mechanism.
Note: The dissemble method of front bezel is as the below photos description, although the photos from S9 to S13 are not suitable for this model.

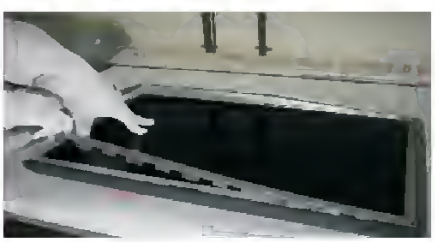
S10 Insert steel rule between panel and front bezel
Using properly force to let the locking mechanism of front bezel and rear cover separated



S11 Separating all of the locking mechanism of the front bezel in turn.



S12 Hold the one upside corner of the front bezel after separating the upside of the front bezel
Using properly force to pull up front bezel that will let the locking mechanism of left side, right side and down side separated



S13 Hold one side of down side that had been separated from front bezel
Use properly force to pull up front bezel

S14 Use a Phillips-head screwdriver unscrew 2 screws to release function key board.
(No1~2 Screw Size=M0.9x1;Torque=0.9~1.1 KGFxCM).

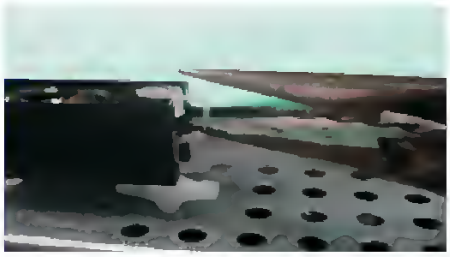
S15 Use a Hex-head screwdriver unscrewed 4 screws to release the DVI and D-SUB connectors
(No1~4Hex Nut screws Size=M3x8;Torque=4.5~6.5KGFxCM).

S16 Use a Phillips-head screwdriver unscrewed the No.1~2 screws to release the power connector.
(No1~2 screw size=M3x10; Torque=7.5~9.5 KGFxCM).

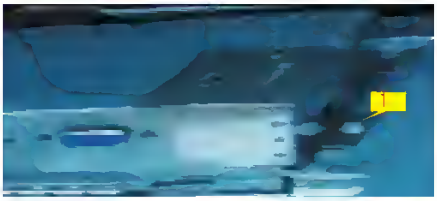
S17 Use a Phillips-head screwdriver unscrewed the No.1~4 screws
(No1~4 screw size=M3x5; Torque=2.5~3 KGFxCM).

S18 Disconnect the lamps cable
Take out lamp cables right through the No.1-2 square holes and separate the bracket chassis

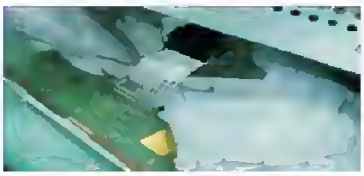
S19 Use long nose pliers to separate plastic hook



S20 Use a Phillips-head screwdriver unscrewed the No.1screws to release the shield cover of iron. (No1 screw size=M3x6; Torque=2.5~3 KGFxCM).

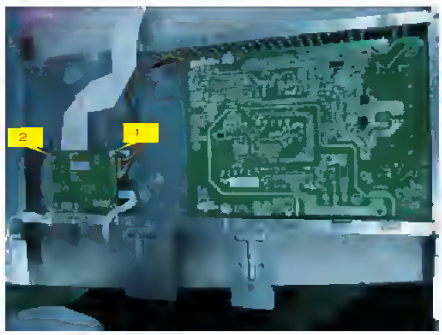


S21 Disconnect the FFC cable to the connector of panel.
Use finger to push the lock according to arrow direction then take out the FFC cable

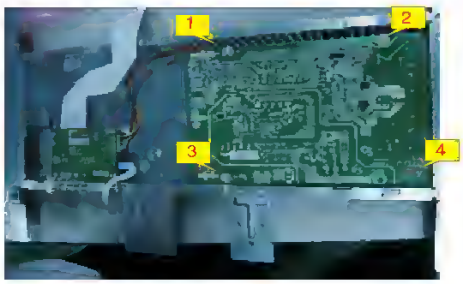


S22 Examine the panel surface accoring to inspection criteria. Put it aside.

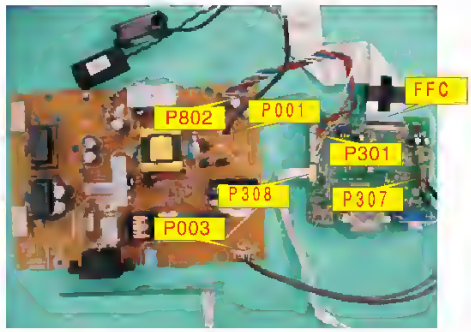
S23 Use a Phillips-head screwdriver unscrewed the No.1~2 screws to release the interface board. (No1~2 screw size=M3x6; Torque=9~10KGFxCM).



S24 Use a Phillips-head screwdriver unscrewed the No.1~4 screws to disassemble the power board. (No 1~3 screw size=M3x6; No 4 screw size=M4x8; Torque=9~10KGFxCM).

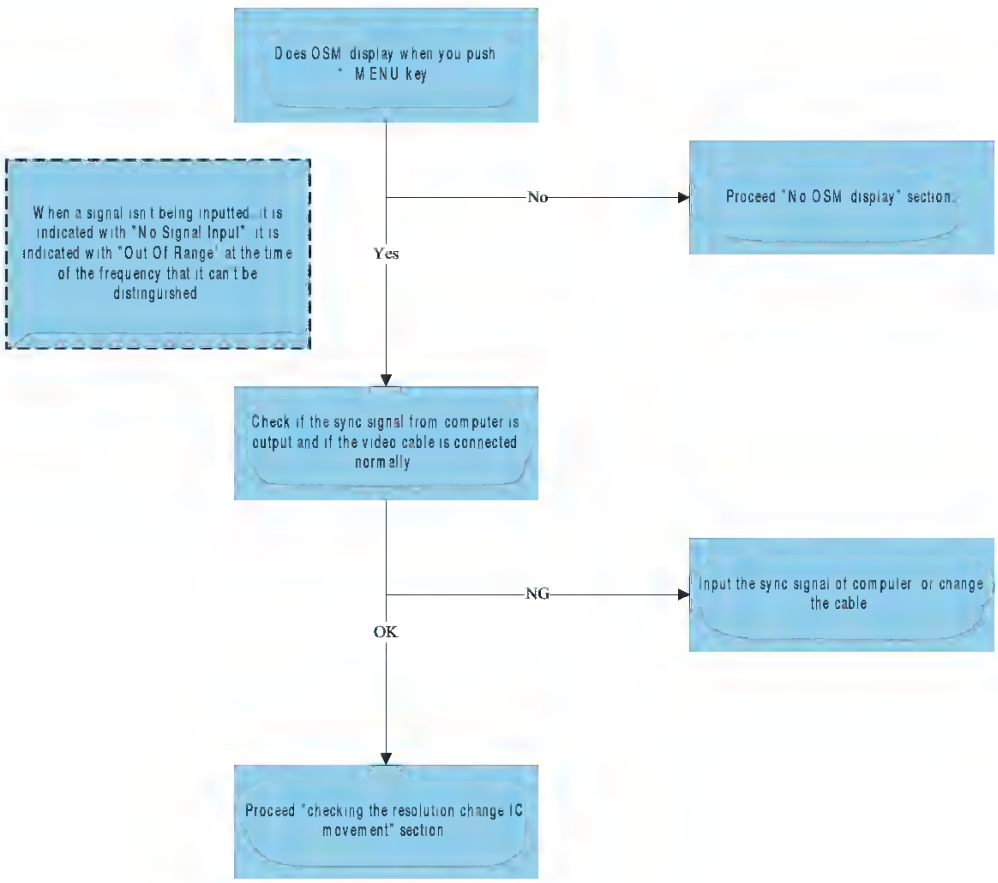


S25 Disconnect all of the cable

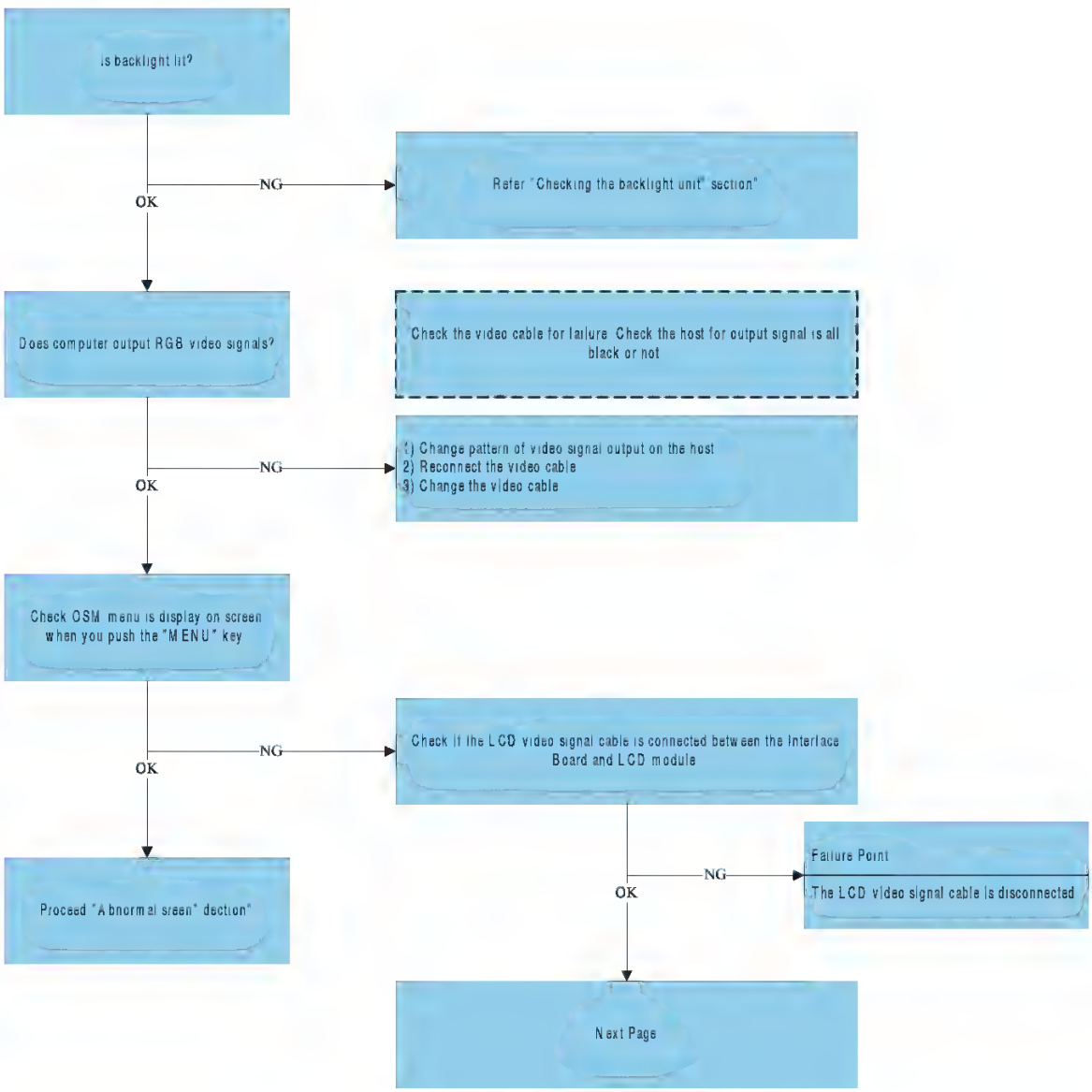


1A and 1A1D

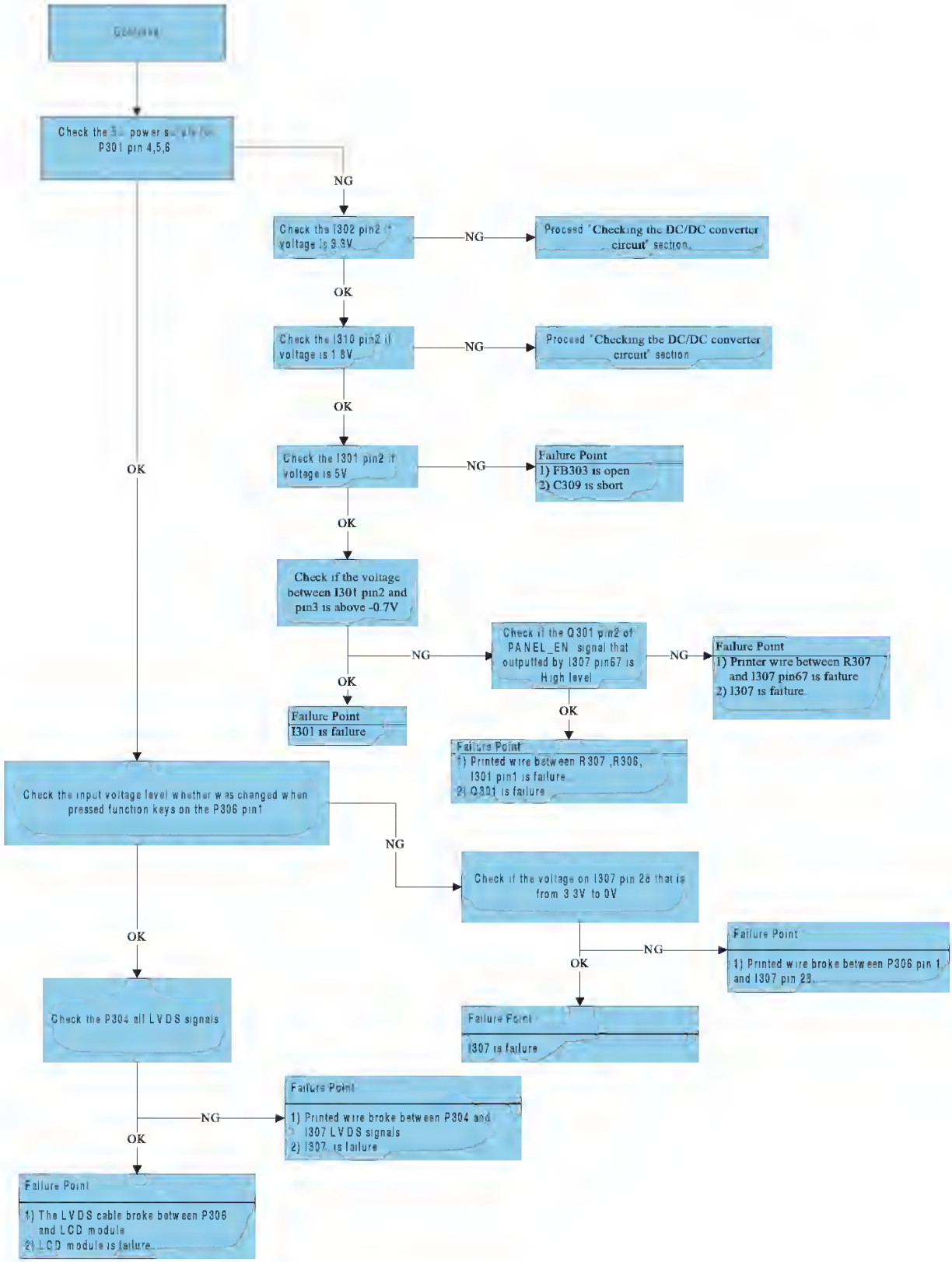
5.1 No display of screen (Screen is black, color of LED is amber)

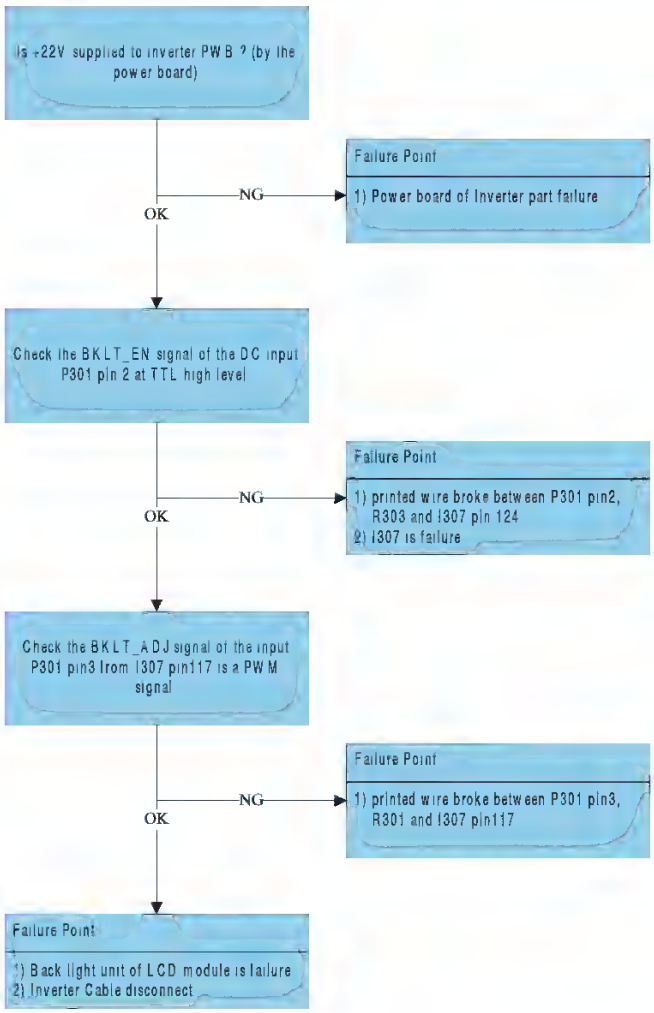

Does OSM display when you push " MENU key
No
Proceed "No OSM display" section
When a signal isn't being inputted, it is indicated with "No Signal Input" it is indicated with "Out Of Range" at the time of the frequency that it can't be distinguished
Yes
Check if the sync signal from computer is output and if the video cable is connected normally
NG
Input the sync signal of computer or change the cable
OK
Proceed "checking the resolution change IC movement" section

5.2 Nothing display on screen (screen is black, color of LED is blue)

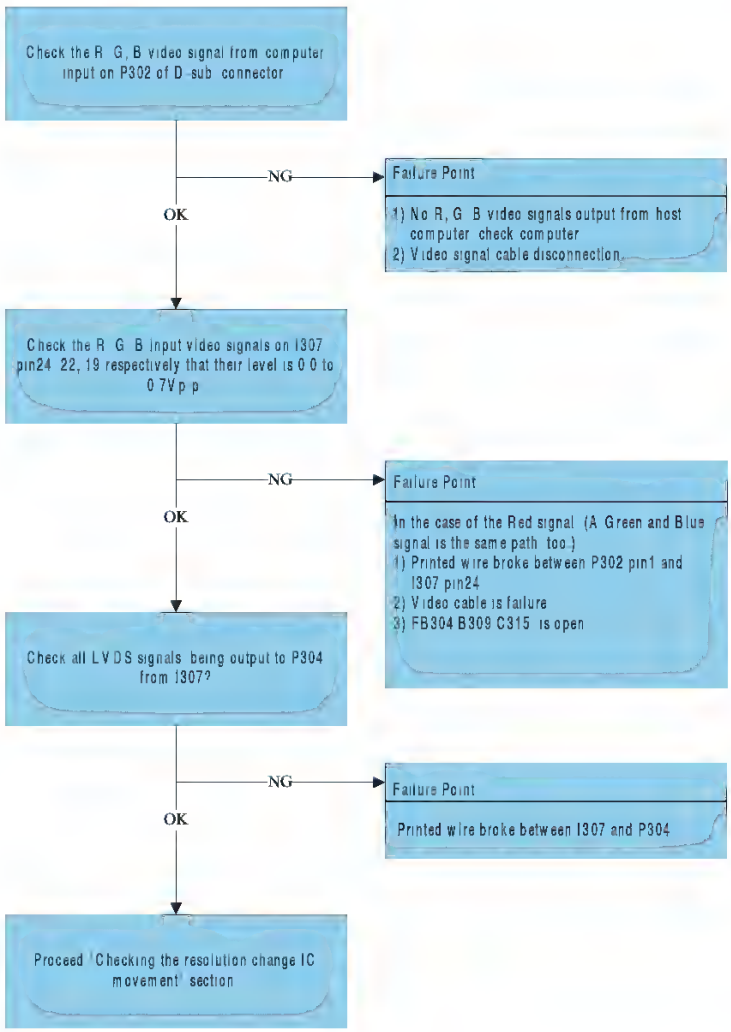

Is backlight lit?
NG
Refer "Checking the backlight unit" section"
OK
Does computer output RGB video signals?
Check the video cable for failure Check the host for output signal is all black or not
NG
1) Change pattern of video signal output on the host
2) Reconnect the video cable
3) Change the video cable
OK
Check OSM menu is display on screen when you push the "MENU" key
NG
Check if the LCD video signal cable is connected between the Interface Board and LCD module
OK
Failure Point
The LCD video signal cable is disconnected
NG
Proceed "Abnormal sreen" dection"
OK
Next Page

5.2 Nothing display on screen (screen is black, color of LED is blue)continued

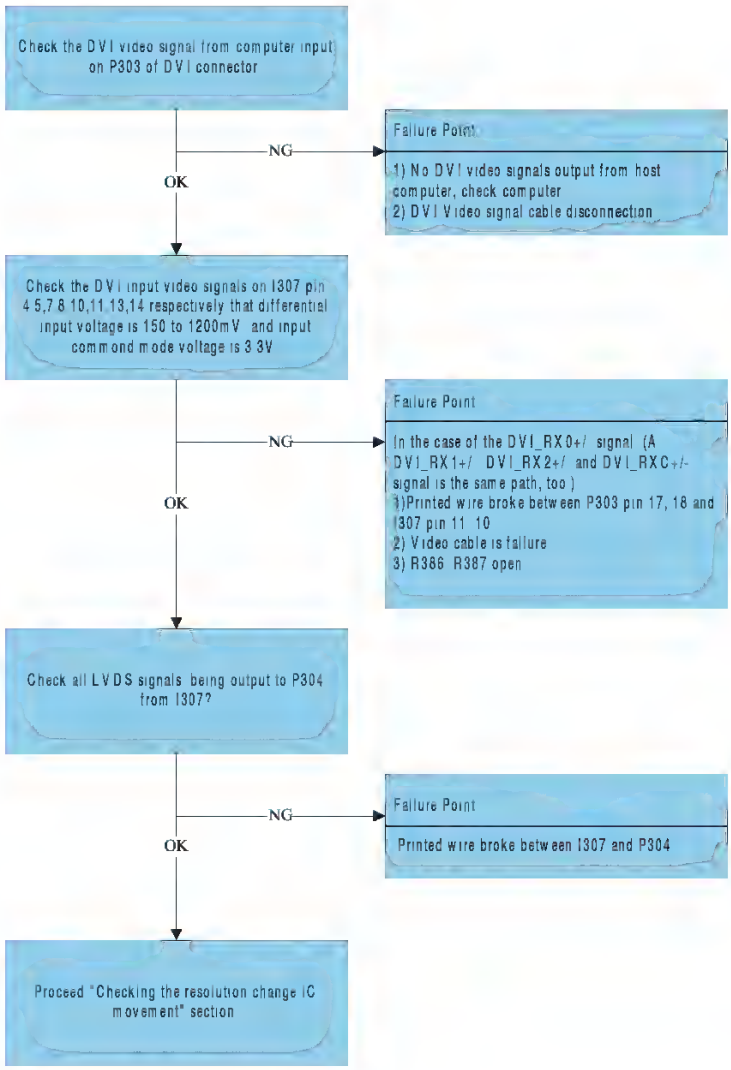

Check the 5... power s... P301 pin 4,5,6
NG
Check the I302 pin2 ... voltage is 3.3V
NG
Proced "Checking the DC/DC converter circuit" section
OK
Check the I310 pin2 if voltage is 1.8V
NG
Proced "Checking the DC/DC converter circuit" section
OK
Check the I301 pin2 if voltage is 5V
NG
Failure Point
1) FB303 is open
2) C309 is short
OK
Check if the voltage between I301 pin2 and pin3 is above -0.7V
NG
Check if the Q301 pin2 of PANEL_EN signal that outputted by I307 pin67 is High level
NG
Failure Point
1) Printer wire between R307 and I307 pin67 is failure
2) I307 is failure
OK
Failure Point
I301 is failure
OK
Failure Point
1) Printed wire between R307 ,R306, I301 pin1 is failure
2) Q301 is failure
OK
Check the input voltage level whether was changed when pressed function keys on the P306 pin1
NG
Check if the voltage on I307 pin 28 that is from 3.3V to 0V
NG
Failure Point
1) Printed wire broke between P306 pin 1 and I307 pin 28
OK
Failure Point
I307 is failure
OK
Check the P304 all LVDS signals
NG
Failure Point
1) Printed wire broke between P304 and I307 LVDS signals
2) I307 is failure
OK
Failure Point
1) The LVDS cable broke between P306 and LCD module
2) LCD module is failure


Is +22V supplied to inverter PWB ? (by the power board)
NG
Failure Point
1) Power board of Inverter part failure
OK
Check the BKLT_EN signal of the DC input P301 pin 2 at TTL high level
NG
Failure Point
1) printed wire broke between P301 pin2, R303 and I307 pin 124
2) I307 is failure
OK
Check the BKLT_ADJ signal of the input P301 pin3 from I307 pin117 is a PWM signal
NG
Failure Point
1) printed wire broke between P301 pin3, R301 and I307 pin117
OK
Failure Point
1) Back light unit of LCD module is failure
2) Inverter Cable disconnect

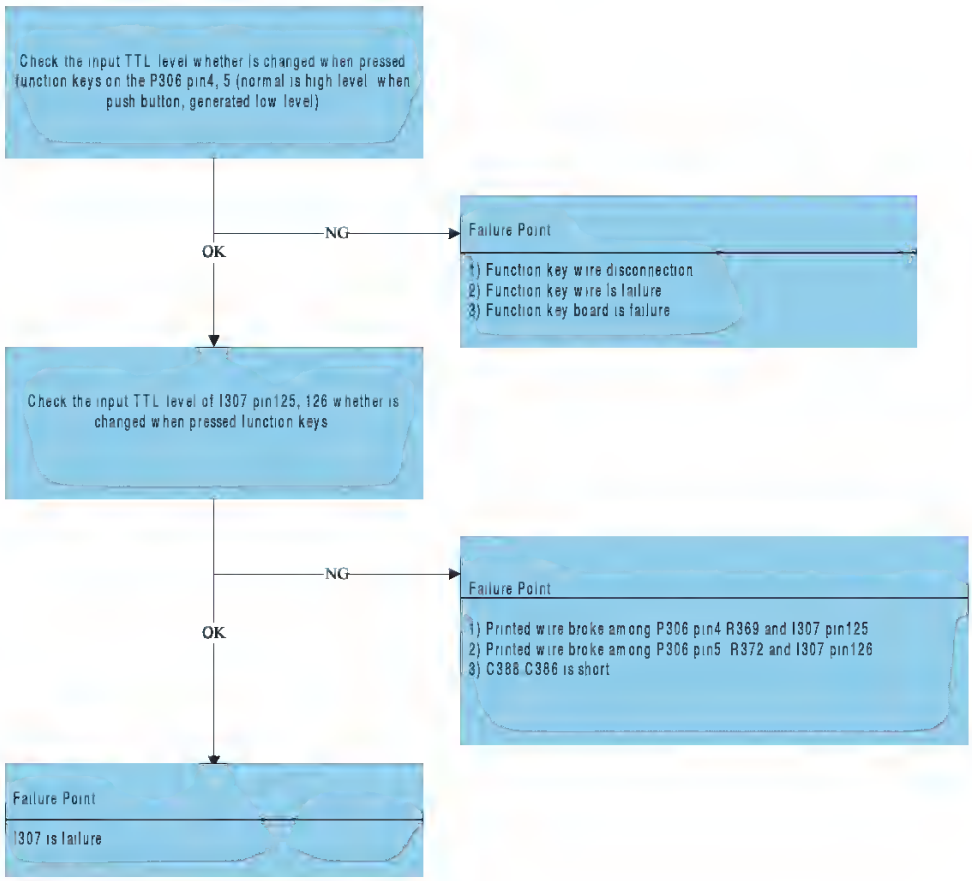
5.4 Abnormal screen for VGA


Check the R G, B video signal from computer input on P302 of D-sub connector
NG
Failure Point
1) No R, G B video signals output from host computer check computer
2) Video signal cable disconnection.
OK
Check the R G B input video signals on I307 pin24 22, 19 respectively that their level is 0.0 to 0.7Vp-p
NG
Failure Point
In the case of the Red signal (A Green and Blue signal is the same path too.)
1) Printed wire broke between P302 pin1 and I307 pin24
2) Video cable is failure
3) FB304 B309 C315 is open
OK
Check all LVDS signals being output to P304 from I307?
NG
Failure Point
Printed wire broke between I307 and P304
OK
Proceed 'Checking the resolution change IC movement' section

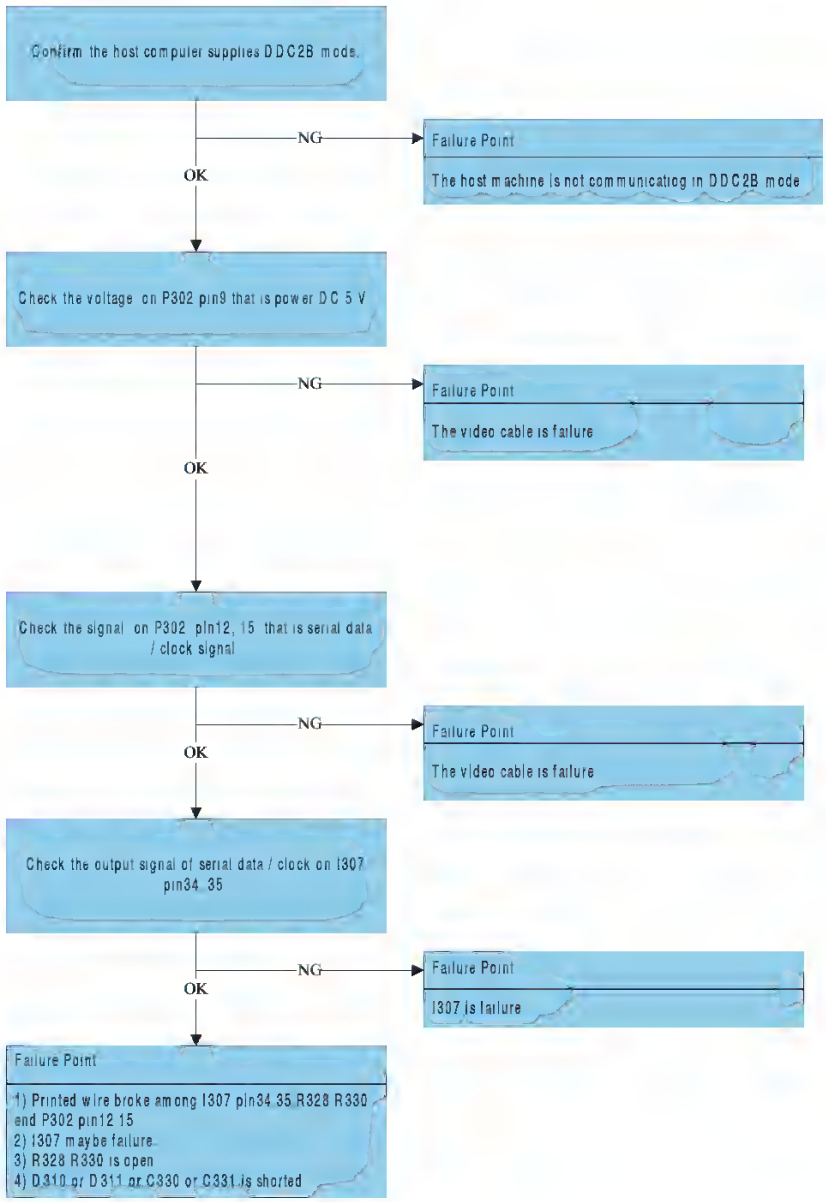
5.5 Abnormal screen for DVI (This page for 1A1D used)


Check the DVI video signal from computer input on P303 of DVI connector
NG
Failure Point
1) No DVI video signals output from host computer, check computer
2) DVI Video signal cable disconnection
OK
Check the DVI input video signals on I307 pin 4 5,7 8 10,11 13,14 respectively that differential input voltage is 150 to 1200mV and input commond mode voltage is 3 3V
NG
Failure Point
In the case of the DVI_RX0+/ signal (A DVI_RX1+/ DVI_RX2+/ and DVI_RXC+/- signal is the same path, too)
1)Printed wire broke between P303 pin 17, 18 and I307 pin 11 10
2) Video cable is failure
3) R386 R387 open
OK
Check all LVDS signals being output to P304 from I307?
NG
Failure Point
Printed wire broke between I307 and P304
OK
Proceed "Checking the resolution change IC movement" section

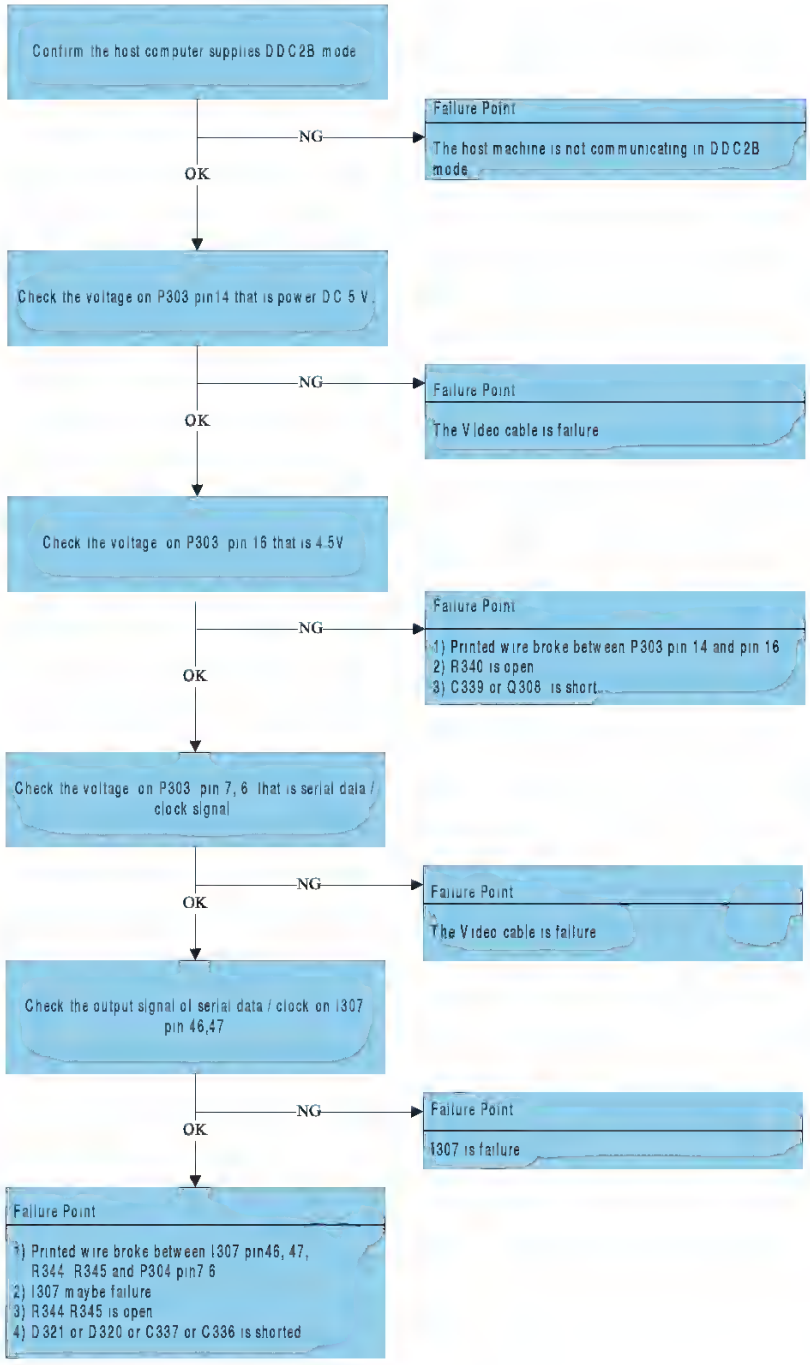
5 6 Abnormal OSM display adjust problem


Check the input TTL level whether is changed when pressed function keys on the P306 pin4, 5 (normal is high level when push button, generated low level)
NG
OK
Failure Point
1) Function key wire disconnection
2) Function key wire is failure
3) Function key board is failure
Check the input TTL level of I307 pin125, 126 whether is changed when pressed function keys
NG
OK
Failure Point
1) Printed wire broke among P306 pin4 R369 and I307 pin125
2) Printed wire broke among P306 pin5 R372 and I307 pin126
3) C388 C386 is short
Failure Point
I307 is failure

5.7 Abnormal plug and play operation for VGA

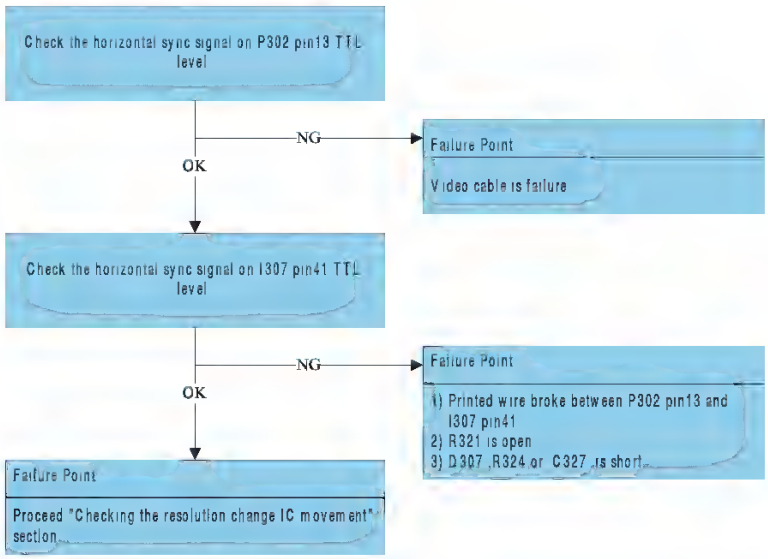

Confirm the host computer supplies DDC2B mode.
NG
Failure Point
The host machine is not communicating in DDC2B mode
OK
Check the voltage on P302 pin9 that is power DC 5 V
NG
Failure Point
The video cable is failure
OK
Check the signal on P302 pin12, 15 that is serial data / clock signal
NG
Failure Point
The video cable is failure
OK
Check the output signal of serial data / clock on I307 pin34, 35
NG
Failure Point
I307 is failure
OK
Failure Point
1) Printed wire broke among I307 pin34 35 R328 R330 and P302 pin12 15
2) I307 maybe failure
3) R328 R330 is open
4) D310 or D311 or C330 or C331 is shorted

5.8 Abnormal plug and play operation for DVI (This page for 1A1D used)

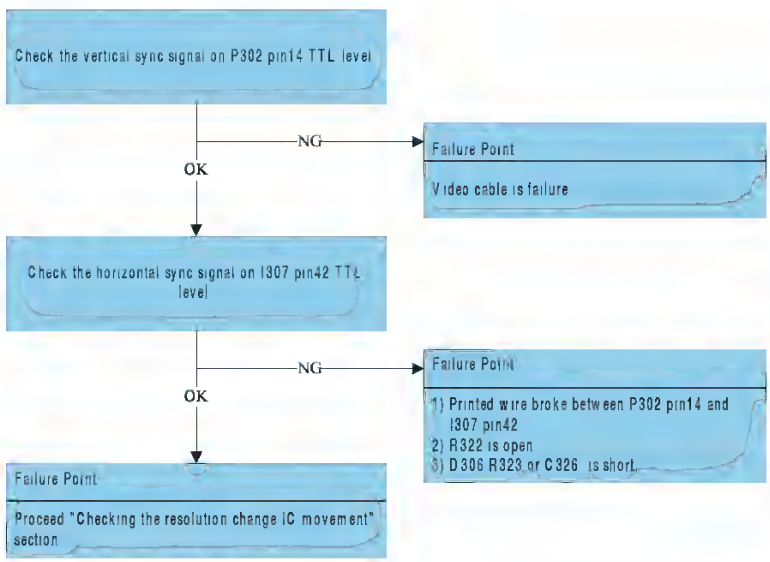

Confirm the host computer supplies DDC2B mode
NG
Failure Point
The host machine is not communicating in DDC2B mode
OK
Check the voltage on P303 pin14 that is power DC 5 V.
NG
Failure Point
The Video cable is failure
OK
Check the voltage on P303 pin 16 that is 4.5V
NG
Failure Point
1) Printed wire broke between P303 pin 14 and pin 16
2) R340 is open
3) C339 or Q308 is short
OK
Check the voltage on P303 pin 7, 6 that is serial data / clock signal
NG
Failure Point
The Video cable is failure
OK
Check the output signal of serial data / clock on I307 pin 46,47
NG
Failure Point
I307 is failure
OK
Failure Point
1) Printed wire broke between I307 pin46, 47, R344 R345 and P304 pin7 6
2) I307 maybe failure
3) R344 R345 is open
4) D321 or D320 or C337 or C336 is shorted

5.9 Checking the interface circuit of sync signa

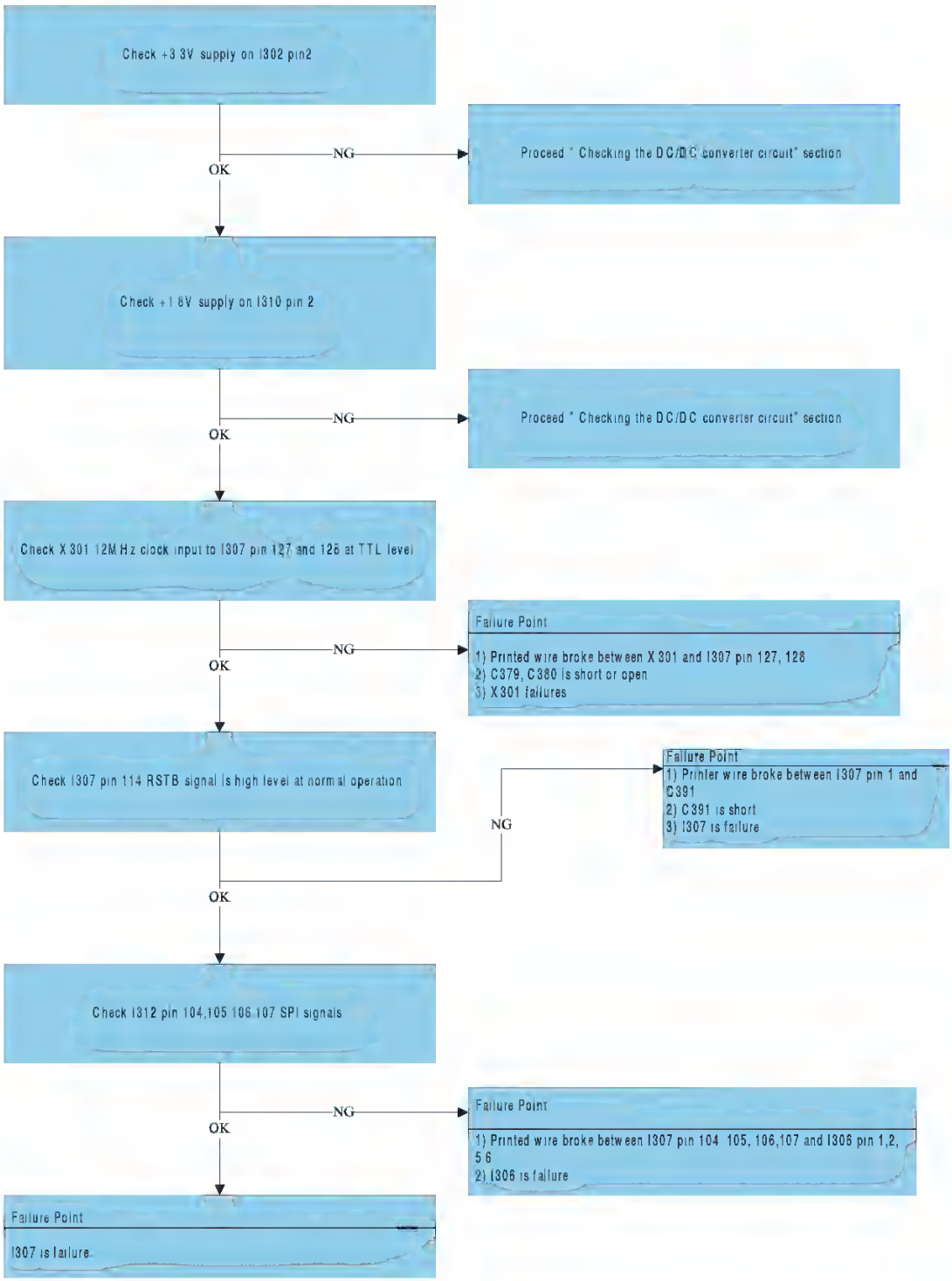
5.9.1 Checking the control circuit of horizontal sync pulse


Check the horizontal sync signal on P302 pin13 TTL level
NG
Failure Point
Video cable is failure
OK
Check the horizontal sync signal on I307 pin41 TTL level
NG
Failure Point
1) Printed wire broke between P302 pin13 and I307 pin41
2) R321 is open
3) D307 ,R324 or C327 ,is short
OK
Failure Point
Proceed "Checking the resolution change IC movement" section

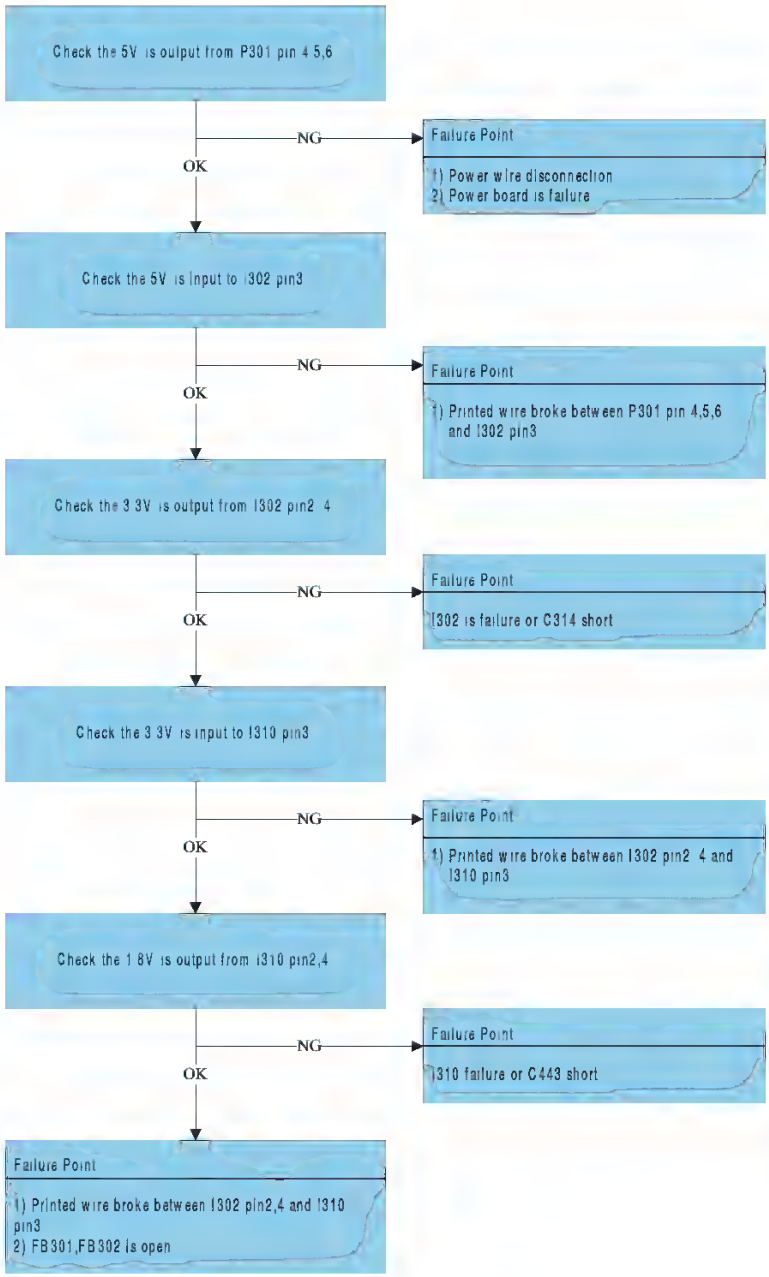
5.7.2 Checking the control circuit of vertical sync pulse


Check the vertical sync signal on P302 pin14 TTL level
NG
Failure Point
Video cable is failure
OK
Check the horizontal sync signal on I307 pin42 TTL level
NG
Failure Point
1) Printed wire broke between P302 pin14 and I307 pin42
2) R322 is open
3) D306 R323 or C326 is short
OK
Failure Point
Proceed "Checking the resolution change IC movement" section

5.10 Checking the resolution change IC movement

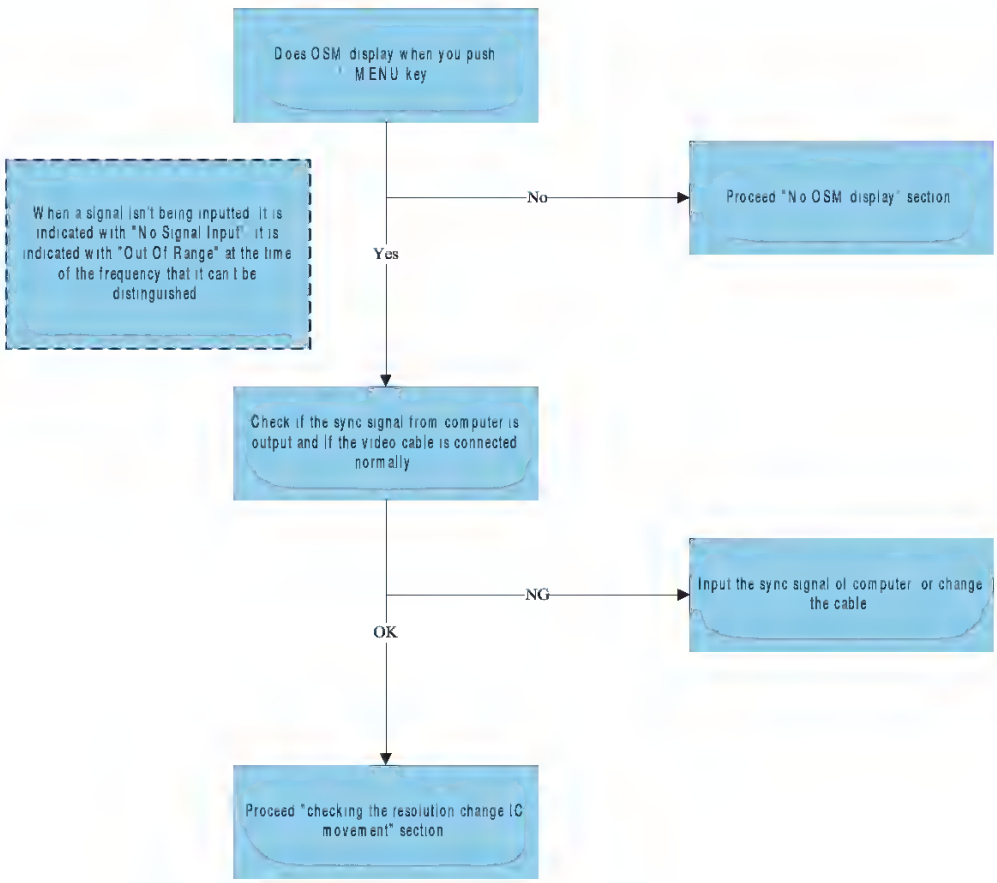

Check +3.3V supply on I302 pin2
NG
Proceed " Checking the DC/DC converter circuit" section
OK
Check +1.8V supply on I310 pin 2
NG
Proceed " Checking the DC/DC converter circuit" section
OK
Check X301 12MHz clock input to I307 pin 127 and 126 at TTL level
NG
Failure Point
1) Printed wire broke between X301 and I307 pin 127, 128
2) C379, C380 is short or open
3) X301 failures
OK
Check I307 pin 114 RSTB signal is high level at normal operation
NG
Failure Point
1) Printer wire broke between I307 pin 1 and C391
2) C391 is short
3) I307 is failure
OK
Check I312 pin 104,105 106 107 SPI signals
NG
Failure Point
1) Printed wire broke between I307 pin 104 105, 106,107 and I306 pin 1,2, 5 6
2) I306 is failure
OK
Failure Point
I307 is failure

5.11 Checking the DC/DC converter circuit

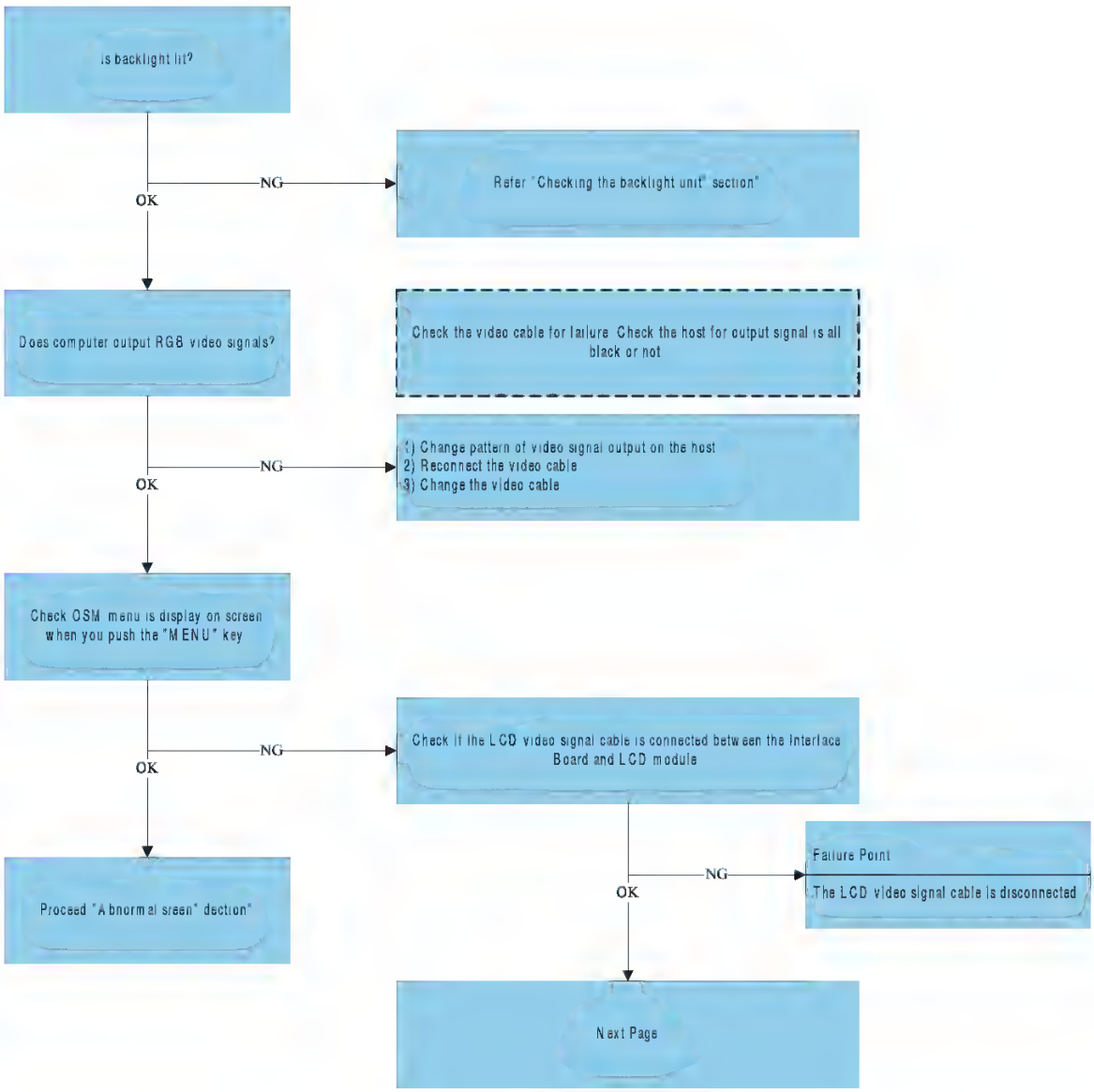

Check the 5V is output from P301 pin 4 5,6
NG
Failure Point
1) Power wire disconnection
2) Power board is failure
OK
Check the 5V is input to I302 pin3
NG
Failure Point
1) Printed wire broke between P301 pin 4,5,6 and I302 pin3
OK
Check the 3 3V is output from I302 pin2 4
NG
Failure Point
I302 is failure or C314 short
OK
Check the 3 3V is input to I310 pin3
NG
Failure Point
1) Printed wire broke between I302 pin2 4 and I310 pin3
OK
Check the 1 8V is output from I310 pin2,4
NG
Failure Point
I310 failure or C443 short
OK
Failure Point
1) Printed wire broke between I302 pin2,4 and I310 pin3
2) FB301,FB302 is open

1A1D1H

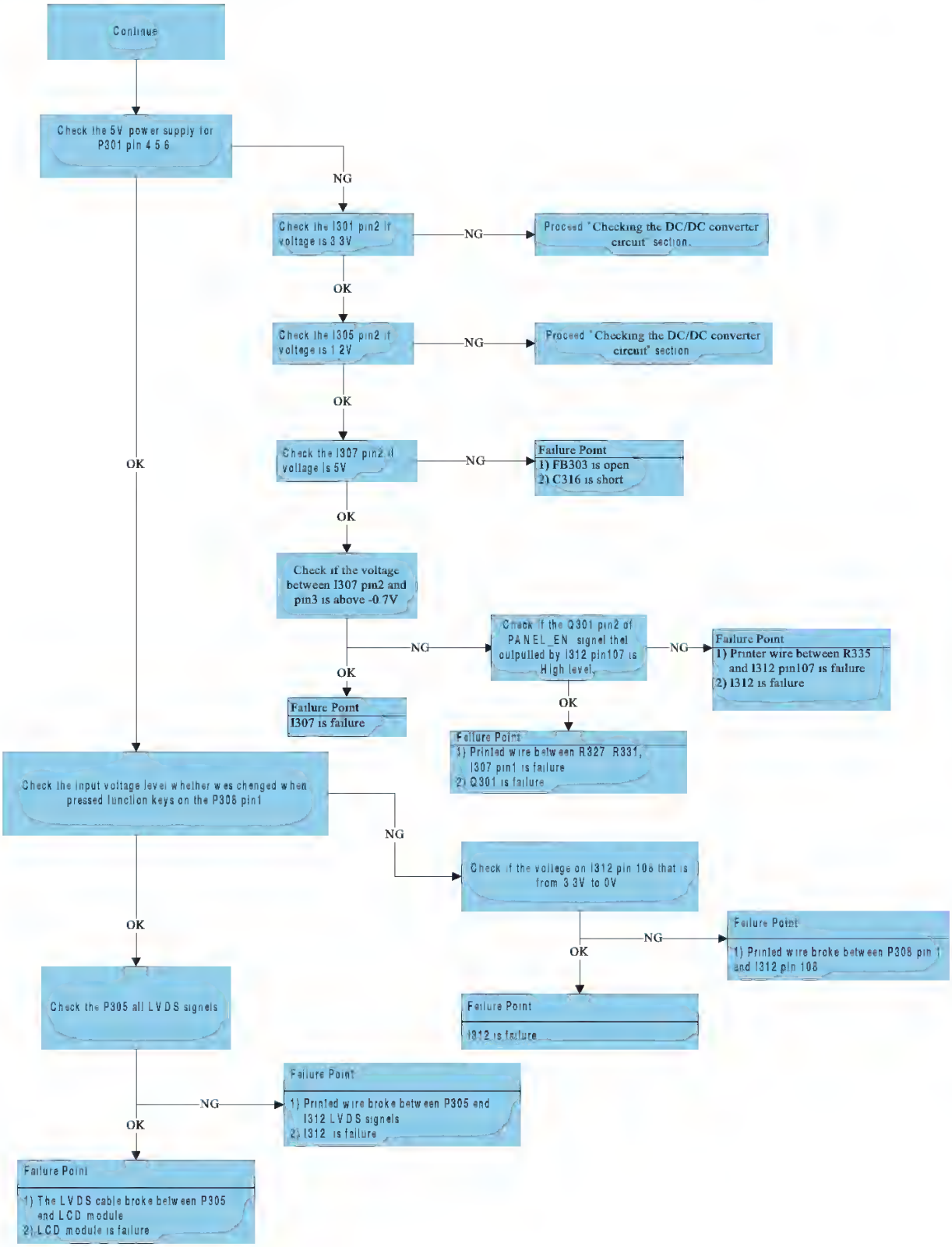
5.1 No display of screen (Screen is black, color of LED is amber)


Does OSM display when you push MENU key
No
Proceed "No OSM display" section
When a signal isn't being inputted, it is indicated with "No Signal Input", it is indicated with "Out Of Range" at the time of the frequency that it can't be distinguished
Yes
Check if the sync signal from computer is output and if the video cable is connected normally
NG
Input the sync signal of computer or change the cable
OK
Proceed "checking the resolution change IC movement" section

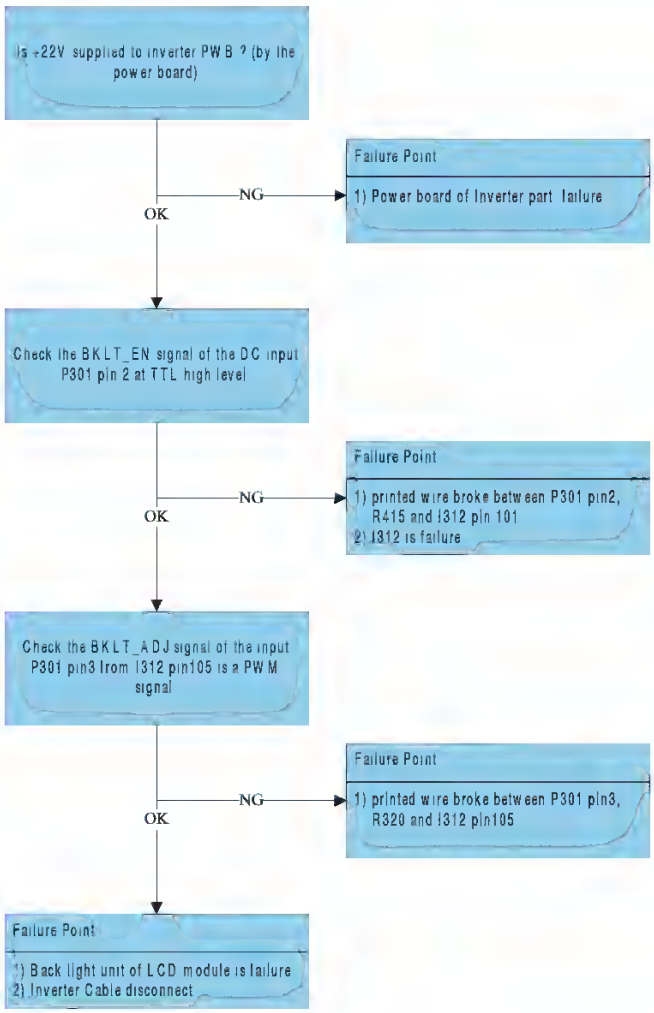
5.2 Nothing display on screen (screen is black, color of LED is blue)


Is backlight lit?
NG
Refer "Checking the backlight unit" section
OK
Does computer output RGB video signals?
Check the video cable for failure Check the host for output signal is all black or not
NG
1) Change pattern of video signal output on the host
2) Reconnect the video cable
3) Change the video cable
OK
Check OSM menu is display on screen when you push the "MENU" key
NG
Check if the LCD video signal cable is connected between the Interface Board and LCD module
OK
Proceed "Abnormal sreen" dection"
NG
Failure Point
The LCD video signal cable is disconnected
OK
Next Page

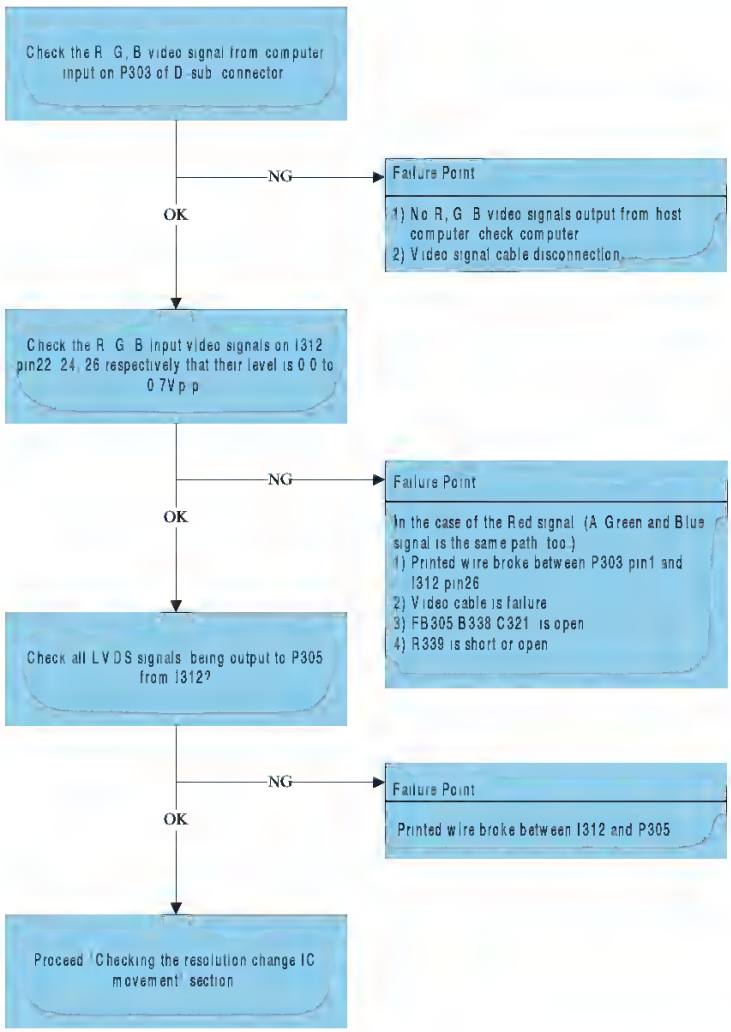
5.2 Nothing display on screen (screen is black, color of LED is blue)continued


Continue
Check the 5V power supply for P301 pin 4 5 6
NG
Check the I301 pin2 if voltage is 3.3V
NG
Proceed "Checking the DC/DC converter circuit" section.
OK
Check the I305 pin2 if voltage is 1.2V
NG
Proceed "Checking the DC/DC converter circuit" section
OK
Check the I307 pin2 if voltage is 5V
NG
Failure Point
1) FB303 is open
2) C316 is short
OK
Check if the voltage between I307 pin2 and pin3 is above -0.7V
NG
Check if the Q301 pin2 of PANEL_EN signal that outpulled by I312 pin107 is High level.
NG
Failure Point
1) Printer wire between R335 and I312 pin107 is failure
2) I312 is failure
OK
Failure Point
I307 is failure
OK
Failure Point
1) Printed wire between R327 R331, I307 pin1 is failure
2) Q301 is failure
OK
Check the input voltage level whether was changed when pressed function keys on the P308 pin1
NG
Check if the voltage on I312 pin 106 that is from 3.3V to 0V
NG
Failure Point
1) Printed wire broke between P308 pin 1 and I312 pin 106
OK
Failure Point
I312 is failure
OK
Check the P305 all LVDS signals
NG
Failure Point
1) Printed wire broke between P305 end I312 LVDS signals
2) I312 is failure
OK
Failure Point
1) The LVDS cable broke between P305 and LCD module
2) LCD module is failure

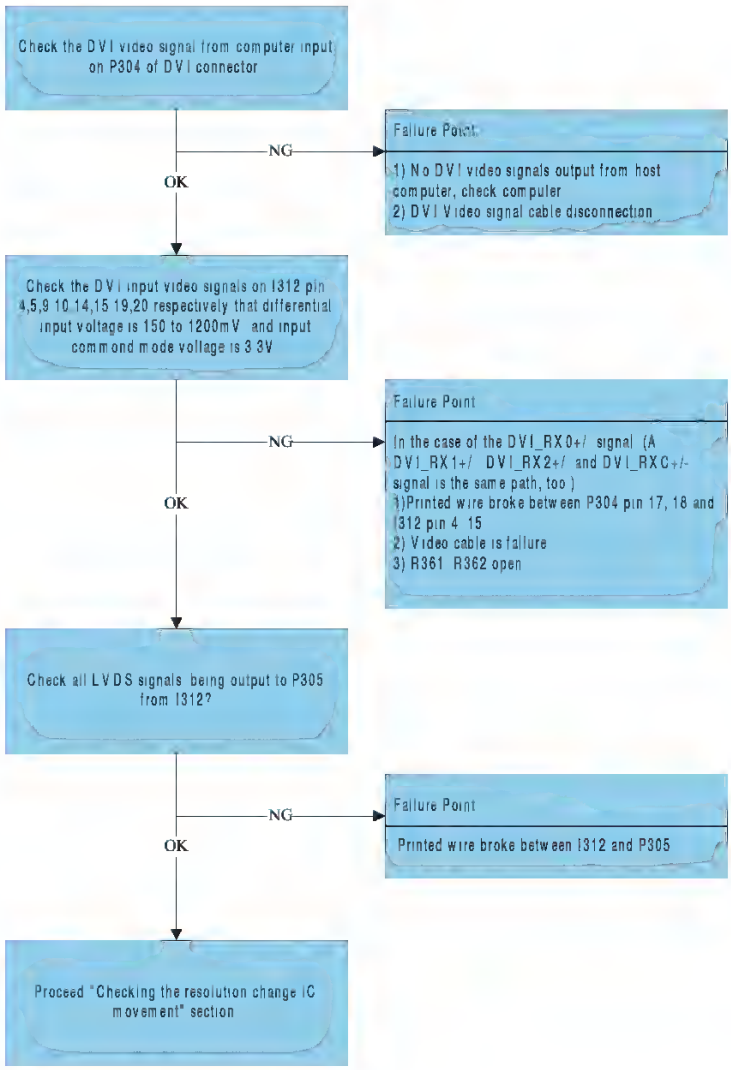
5.3 Checking the back light unit


Is +22V supplied to inverter PWB ? (by the power board)
NG
Failure Point
1) Power board of Inverter part failure
OK
Check the BKLT_EN signal of the DC input P301 pin 2 at TTL high level
NG
Failure Point
1) printed wire broke between P301 pin2, R415 and I312 pin 101
2) I312 is failure
OK
Check the BKLT_ADJ signal of the input P301 pin3 from I312 pin105 is a PWM signal
NG
Failure Point
1) printed wire broke between P301 pin3, R320 and I312 pin105
OK
Failure Point
1) Back light unit of LCD module is failure
2) Inverter Cable disconnect

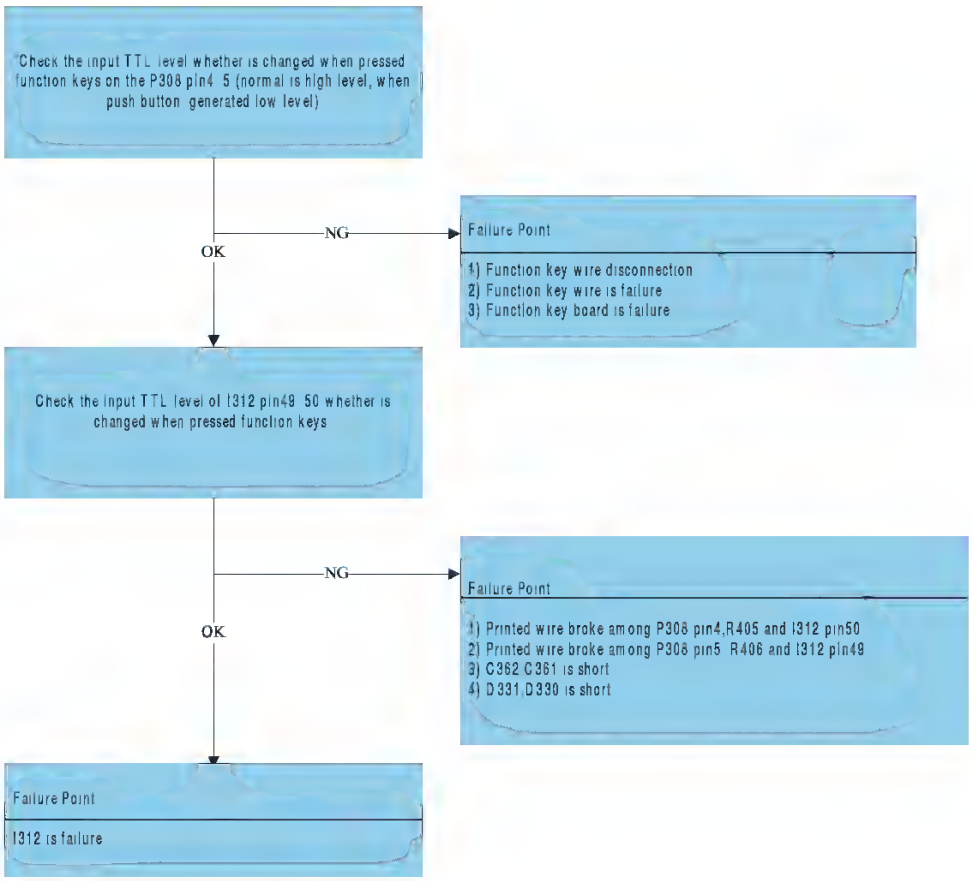
5.4 Abnormal screen for VGA


Check the R G, B video signal from computer input on P303 of D-sub connector
NG
Failure Point
1) No R, G B video signals output from host computer check computer
2) Video signal cable disconnection
OK
Check the R G B input video signals on I312 pin22 24, 26 respectively that their level is 0 0 to 0 7Vp p
NG
Failure Point
In the case of the Red signal (A Green and Blue signal is the same path too.)
1) Printed wire broke between P303 pin1 and I312 pin26
2) Video cable is failure
3) FB305 B338 C321 is open
4) R339 is short or open
OK
Check all LVDS signals being output to P305 from I312?
NG
Failure Point
Printed wire broke between I312 and P305
OK
Proceed 'Checking the resolution change IC movement' section

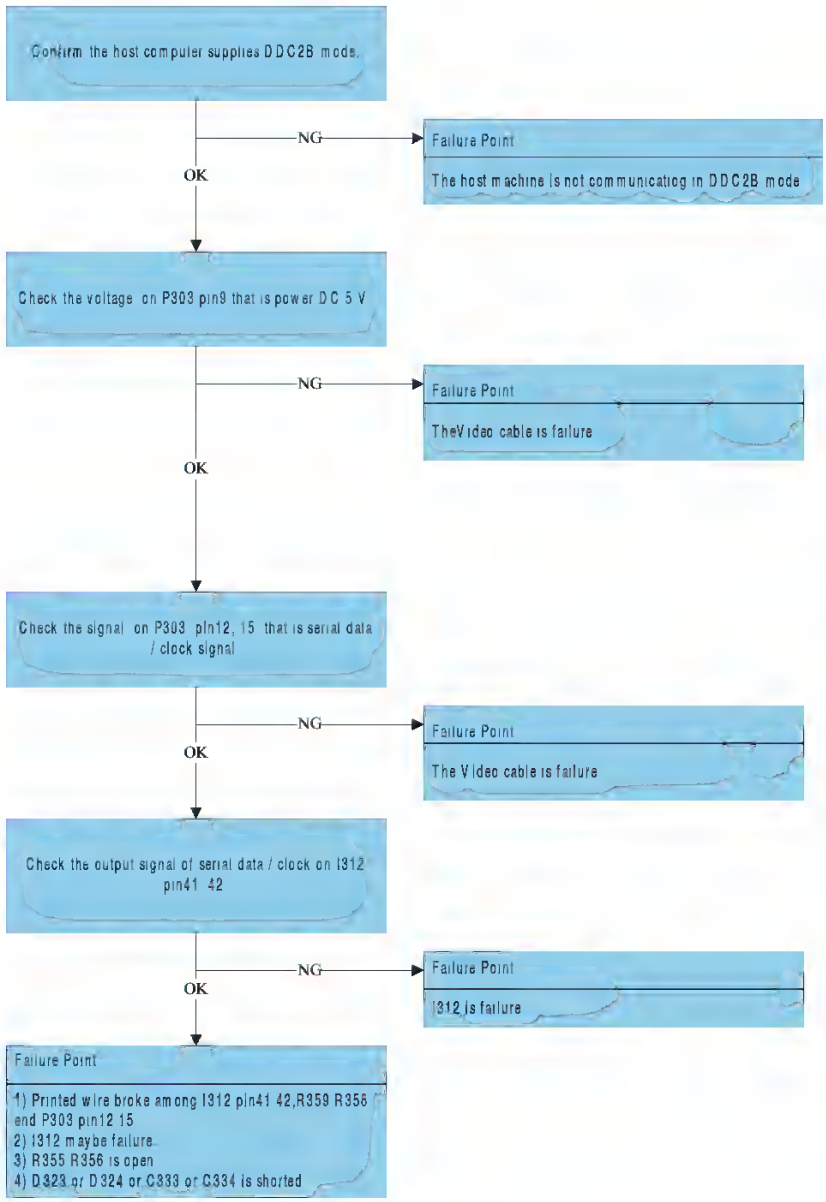
5.5 Abnormal screen (For DVI and the same for HDMI)


Check the DVI video signal from computer input on P304 of DVI connector
NG
Failure Point
1) No DVI video signals output from host computer, check computer
2) DVI Video signal cable disconnection
OK
Check the DVI input video signals on I312 pin 4,5,9 10,14,15 19,20 respectively that differential input voltage is 150 to 1200mV and input commond mode voltage is 3.3V
NG
Failure Point
In the case of the DVI_RX0+/- signal (A DVI_RX1+/- DVI_RX2+/- and DVI_RXC+/- signal is the same path, too)
1)Printed wire broke between P304 pin 17, 18 and I312 pin 4 15
2) Video cable is failure
3) R361 R362 open
OK
Check all LVDS signals being output to P305 from I312?
NG
Failure Point
Printed wire broke between I312 and P305
OK
Proceed "Checking the resolution change IC movement" section

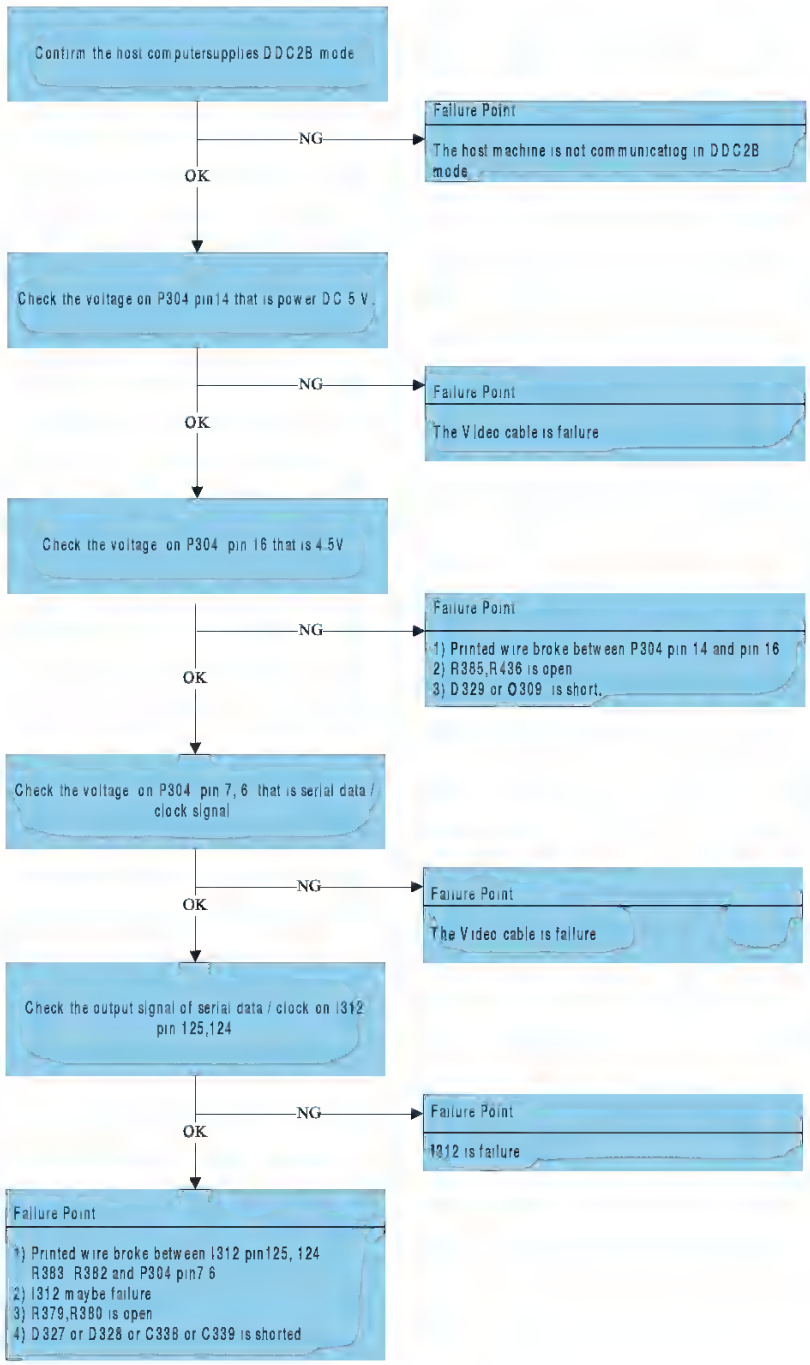
5.6 Abnormal OSM display adjust problem


Check the input TTL level whether is changed when pressed function keys on the P308 pin4 5 (normal is high level, when push button generated low level)
NG
OK
Failure Point
1) Function key wire disconnection
2) Function key wire is failure
3) Function key board is failure
Check the input TTL level of I312 pin49 50 whether is changed when pressed function keys
NG
OK
Failure Point
1) Printed wire broke among P308 pin4,R405 and I312 pin50
2) Printed wire broke among P308 pin5 R406 and I312 pin49
3) C362 C361 is short
4) D331,D330 is short
Failure Point
I312 is failure

5.7 Abnormal plug and play operation for VGA

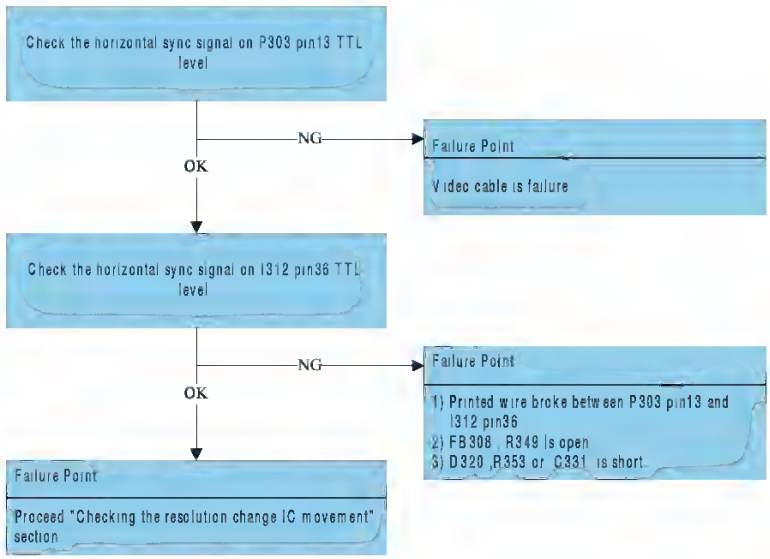

Confirm the host computer supplies DDC2B mode.
NG
Failure Point
The host machine is not communicating in DDC2B mode
OK
Check the voltage on P303 pin9 that is power DC 5 V
NG
Failure Point
TheVideo cable is failure
OK
Check the signal on P303 pin12, 15 that is serial data / clock signal
NG
Failure Point
The Video cable is failure
OK
Check the output signal of serial data / clock on I312 pin41 42
NG
Failure Point
I312 is failure
OK
Failure Point
1) Printed wire broke among I312 pin41 42,R359 R356 and P303 pin12 15
2) I312 maybe failure
3) R355 R356 is open
4) D323 or D324 or C333 or C334 is shorted

5.8 Abnormal plug and play operation (For DVI and the same for HDMI)

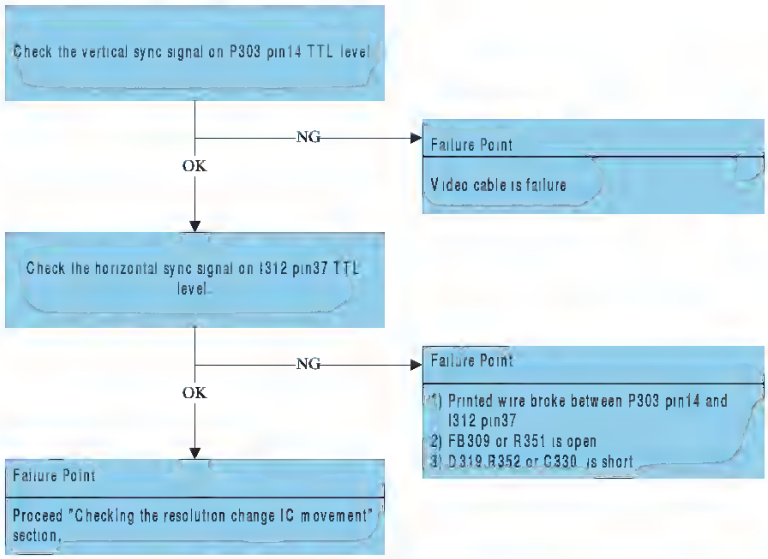

Confirm the host computersupplies DDC2B mode
NG
Failure Point
The host machine is not communicatiog in DDC2B mode
OK
Check the voltage on P304 pin14 that is power DC 5 V.
NG
Failure Point
The Video cable is failure
OK
Check the voltage on P304 pin 16 that is 4.5V
NG
Failure Point
1) Printed wire broke between P304 pin 14 and pin 16
2) R385,R436 is open
3) D329 or C309 is short.
OK
Check the voltage on P304 pin 7, 6 that is serial data / clock signal
NG
Failure Point
The Video cable is failure
OK
Check the output signal of serial data / clock on I312 pin 125,124
NG
Failure Point
I312 is failure
OK
Failure Point
1) Printed wire broke between I312 pin125, 124 R383 R382 and P304 pin7 6
2) I312 maybe failure
3) R379,R380 is open
4) D327 or D328 or C338 or C339 is shorted

5.9 Checking the interface circuit of sync signal

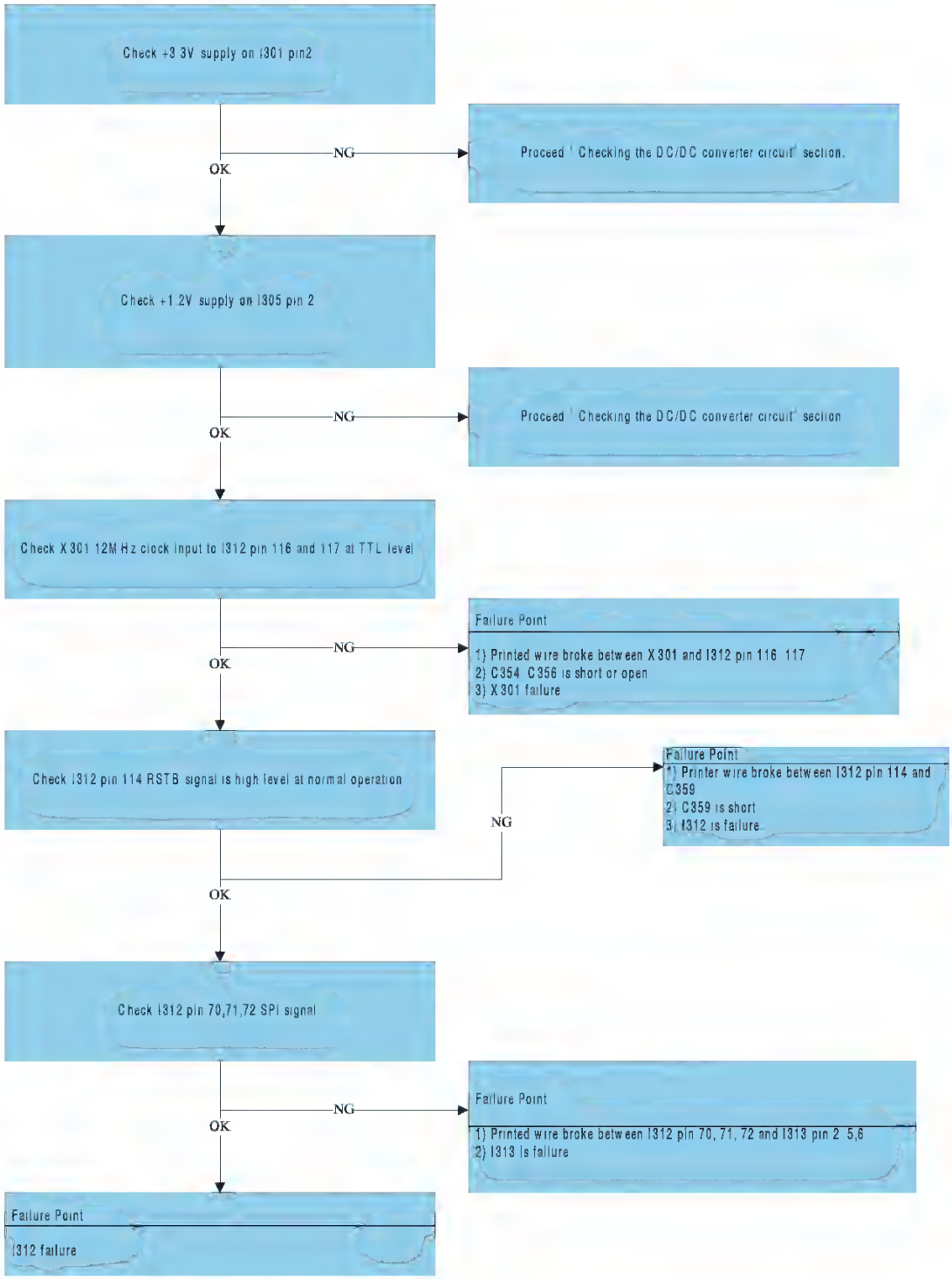
5.9.1 Checking the control circuit of horizontal sync pulse


Check the horizontal sync signal on P303 pin13 TTL level
NG
Failure Point
Video cable is failure
OK
Check the horizontal sync signal on I312 pin36 TTL level
NG
Failure Point
1) Printed wire broke between P303 pin13 and I312 pin36
2) FB308 , R349 is open
3) D320 ,R353 or C331 is short
OK
Failure Point
Proceed "Checking the resolution change IC movement" section

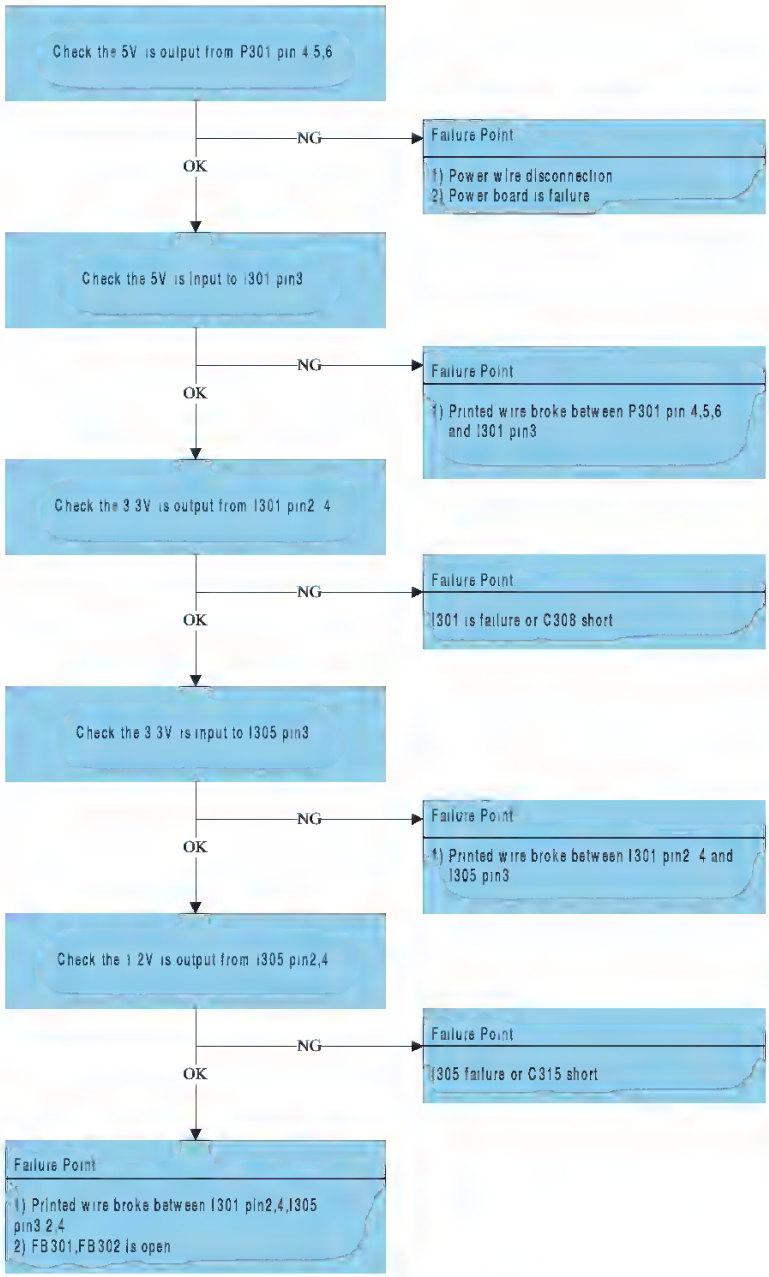
5.9.2 Checking the control circuit of vertical sync pulse


Check the vertical sync signal on P303 pin14 TTL level
NG
Failure Point
Video cable is failure
OK
Check the horizontal sync signal on I312 pin37 TTL level
NG
Failure Point
1) Printed wire broke between P303 pin14 and I312 pin37
2) FB309 or R351 is open
3) D319,R352 or C330 is short
OK
Failure Point
Proceed "Checking the resolution change IC movement" section.

5.10 Checking the resolution change IC movement


Check +3.3V supply on I301 pin2
NG
Proceed ' Checking the DC/DC converter circuit' section.
OK
Check +1.2V supply on I305 pin 2
NG
Proceed ' Checking the DC/DC converter circuit' section
OK
Check X301 12MHz clock input to I312 pin 116 and 117 at TTL level
NG
Failure Point
1) Printed wire broke between X301 and I312 pin 116 117
2) C354 C356 is short or open
3) X301 failure
OK
Check I312 pin 114 RSTB signal is high level at normal operation
NG
Failure Point
*) Printer wire broke between I312 pin 114 and C359
2) C359 is short
3) I312 is failure
OK
Check I312 pin 70,71,72 SPI signal
NG
Failure Point
1) Printed wire broke between I312 pin 70, 71, 72 and I313 pin 2 5,6
2) I313 is failure
OK
Failure Point
I312 failure

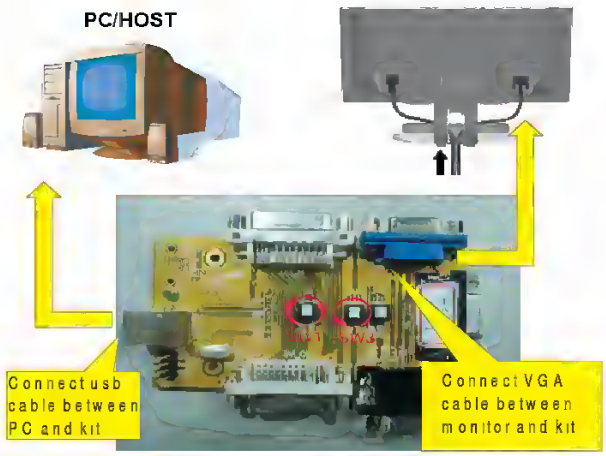
5.11 Checking the DC/DC converter circuit


Check the 5V is output from P301 pin 4 5,6
NG
Failure Point
1) Power wire disconnection
2) Power board is failure
OK
Check the 5V is input to I301 pin3
NG
Failure Point
1) Printed wire broke between P301 pin 4,5,6 and I301 pin3
OK
Check the 3 3V is output from I301 pin2 4
NG
Failure Point
I301 is failure or C308 short
OK
Check the 3 3V is input to I305 pin3
NG
Failure Point
1) Printed wire broke between I301 pin2 4 and I305 pin3
OK
Check the 1 2V is output from I305 pin2,4
NG
Failure Point
I305 failure or C315 short
OK
Failure Point
1) Printed wire broke between I301 pin2,4,I305 pin3 2 4
2) FB301,FB302 is open

For 1A,1A1D and 1A1D1H used

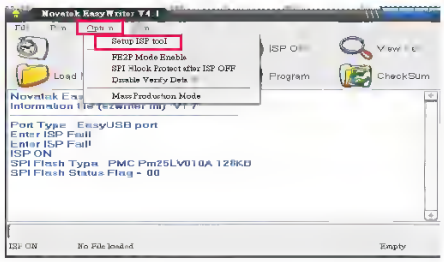
6.1 Hardware Configuration(For Usb port kit)

Note: The SW3 should be pushed down When you writing EDID through VGA port when writing EDID through HDMI,the Sw1 should be pused down. It depends on what ports you want to write through.

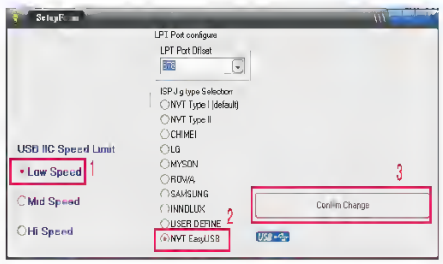


S1 Open the Novatek EasyWriter V4.1 driver as below then install it in your computer then launch it.

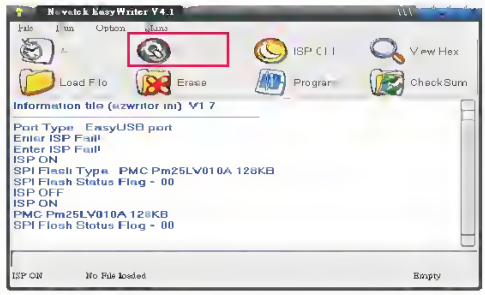
S2 Press option -> Option ->Setup ISP tool.



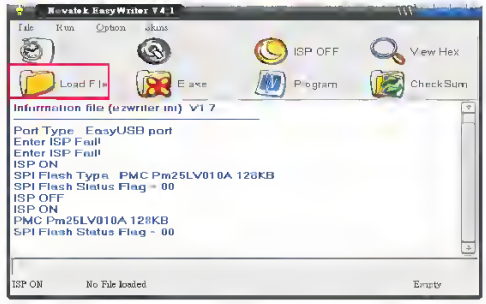
S3 Select "Low Speed" ->NVT Easy USB ->Confirm Change.



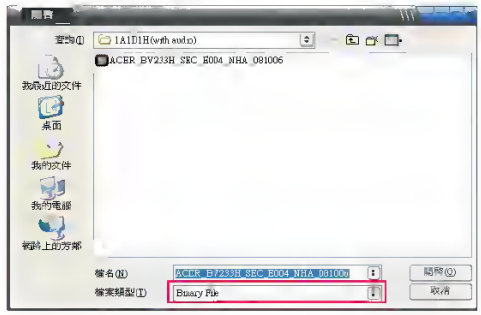
S4 Press ISP ON -> check the connection from PC to monitor, please keep monitor power ON.
Note: It must be good connection between PC and monitor, and then you can press ISP ON and ISP OFF.



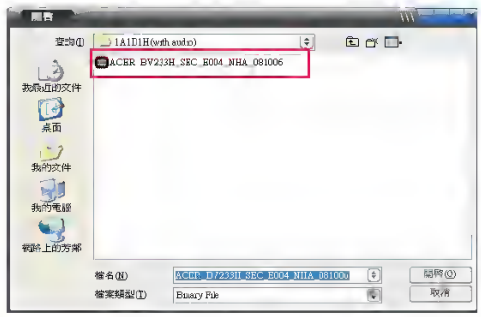
S5 Press Load File to select F/W code.



S6 Please select your F/W code from Binary File as below.



S7 Select your F/W code as below menu, and then press enter.

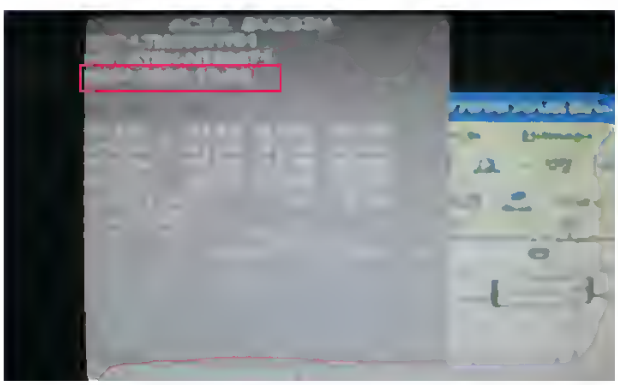


S8 Press Auto to update F/W, the monitor will auto reset system after F/W completely load.

S9 Check firmware version

Turn off the power,then press force on " POWER " and " E " button at the same time then press on " MENU "button to enter factory mode

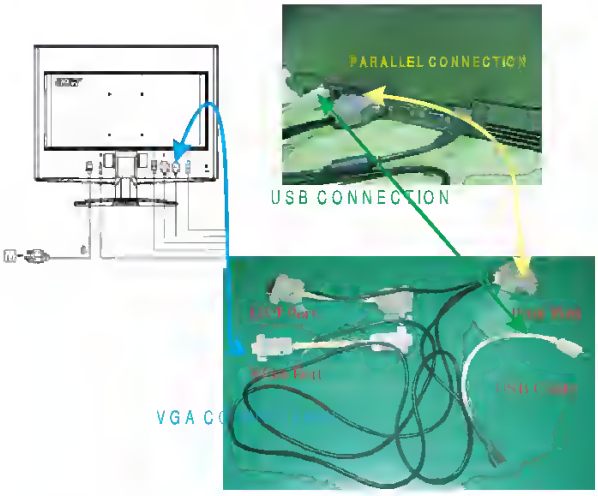
Note: Please pay attention ,Don't change any parameter which is measured by precise machine before shipping out.



1A

Hardware Configuration:

1. Take the printer connector(male) of a DDC multi-cable plugged into the printer socket (female) of a desktop PC or laptop as '1 PRINTER'.
2. Take the USB connector of the DDC multi-cable plugged into the USB socket of a desktop PC or laptop
3. Take a standard D-sub cable (male-male) to connect the D-Sub video port (female) of monitor and D-Sub connector (female) of the DDC multi cable.
4. Check all cables are well connected.

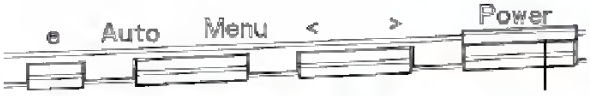


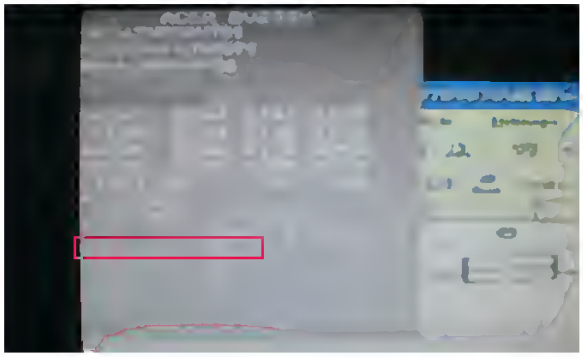
S1 Open EDID Write protection function

Turn off the power,then press force on " POWER " and " E " button at the same time then press on " MENU "button to enter factory mode.

Select "EDID WP" to let it be off.

Note: Please pay attention ,Don't change any parameter which is measured by precise machine before shipping out.

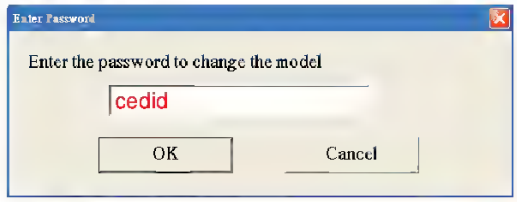


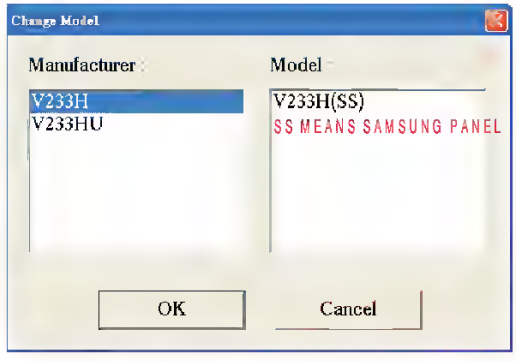


Writing EDID for VGA(1A)

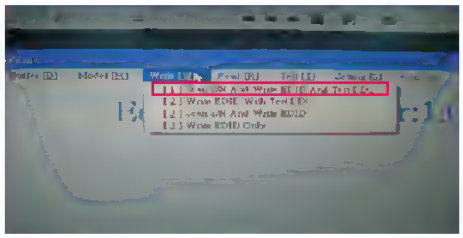
S1 Chose the folder:" Acer-V233H-edid-VGA " Double click " AcerEDID-Ana_only EXE "

S2 Select Model: Key in password"cedid" then select model which one you want to write EDID code that it depends on panel type.

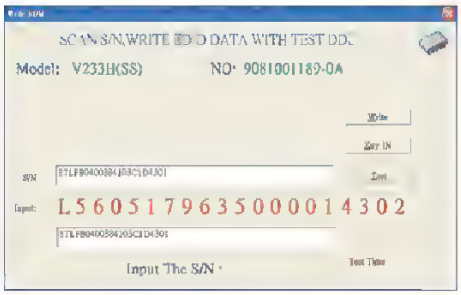




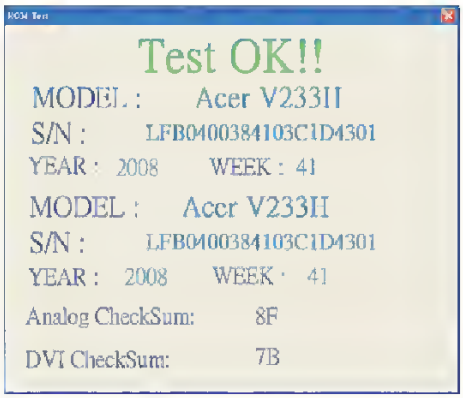
S3 Choose "WRITE" from menu then select "Scan S/N And Write EDID And Test DDC"



S4 Key in series number in the input column and input 2 column
Press write button after key in S/N



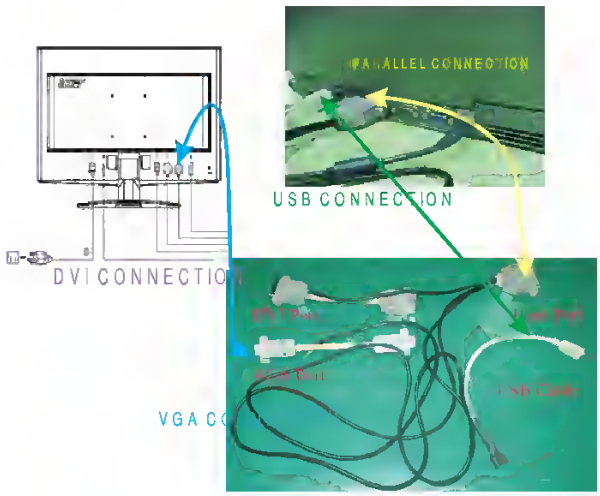
S5 When EDID was written successfully that will show below message on the screen



1A1D

Hardware Configuration

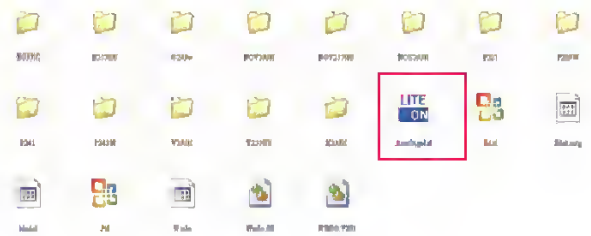
1. Connect the PRINTER PLUG of DDC FIXTURE with the printer port of Desktop PC
2. Plug USB A PLUG of DDC FIXTURE to USB socket of Desktop PC
3. Use DVI cable connect to the DVI socket of monitor of DDC FIXTURE
4. Take a video cable then connect the D-SUB PLUG and the D-sub socket of monitor.
5. Re-confirm all the connectors are connected well



Entering Factory mole to let "EDID WP" be off

Writing EDID procedure for 1A1D

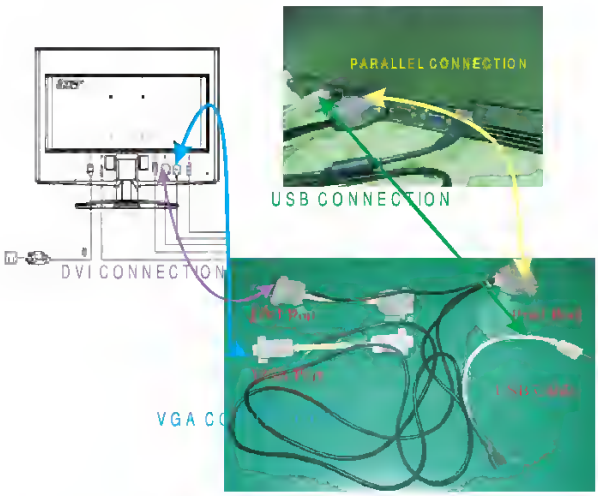
S1 Choose the folder "ACER-VGA&DVI-DDC"
Double click " AcerDigedid exe "
The writing process same as writing 1A process.(from S2 to S5)



1A1D1H

Hardware Configuration (Writing EDID for VGA's and DVI port's)

1. Connect the PRINTER PLUG of DDC FIXTURE with the printer port of Desktop PC.
2. Plug USB A PLUG of DDC FIXTURE to USB socket of Desktop PC
3 Use DVI cable connect to the DVI socket of monitor of DDC FIXTURE.
4 Take a video cable then connect the D-SUB PLUG and the D-sub socket of monitor.
5. Re-confirm all the connectors are connected well.



Entering Factory mole to let "EDID WP" be off

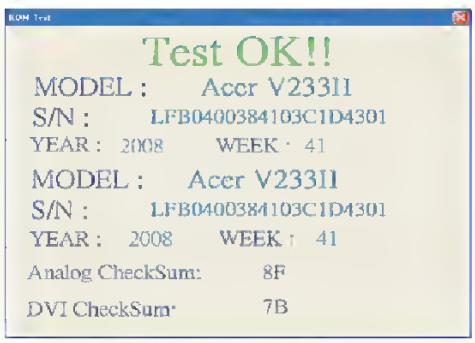
Writing EDID procedure for 1A1D1H

S1 Choose the folder "ACER-VGA&DVI-DDC"

Double click " AcerDigedid "

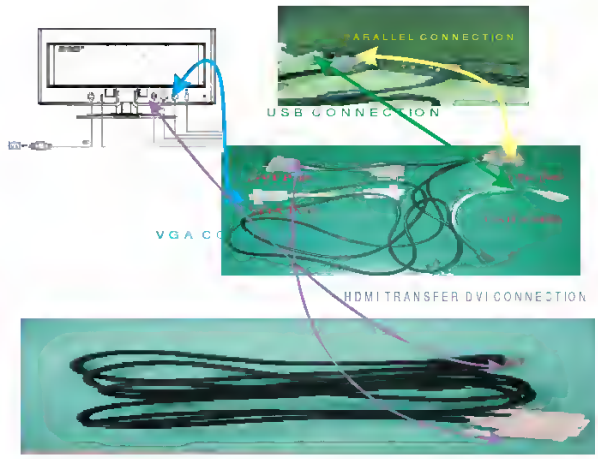
The writing process same as writing 1A process.

S2 When EDID was written successfully that will show below message on the screen



Hardware Configuration (Writing EDID for HDMI port's)

1. Connect the PRINTER PLUG of DDC FIXTURE with the printer port of Desktop PC.
2. Plug USB A PLUG of DDC FIXTURE to USB socket of Desktop PC
3 Use DVI transfer HDMI cable connect between of the DVI EXTENDING SOCKET and Monitor(Writing EDID for HDMI port)
4 Take a video cable then connect the D-SUB PLUG and the D-sub socket of monitor.
5. Re-confirm all the connectors are connected well.



Entering Factory mole to let "EDID WP" be off

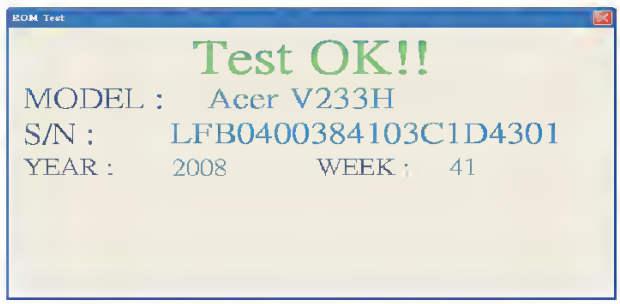
Writing EDID procedure for 1A1D1H

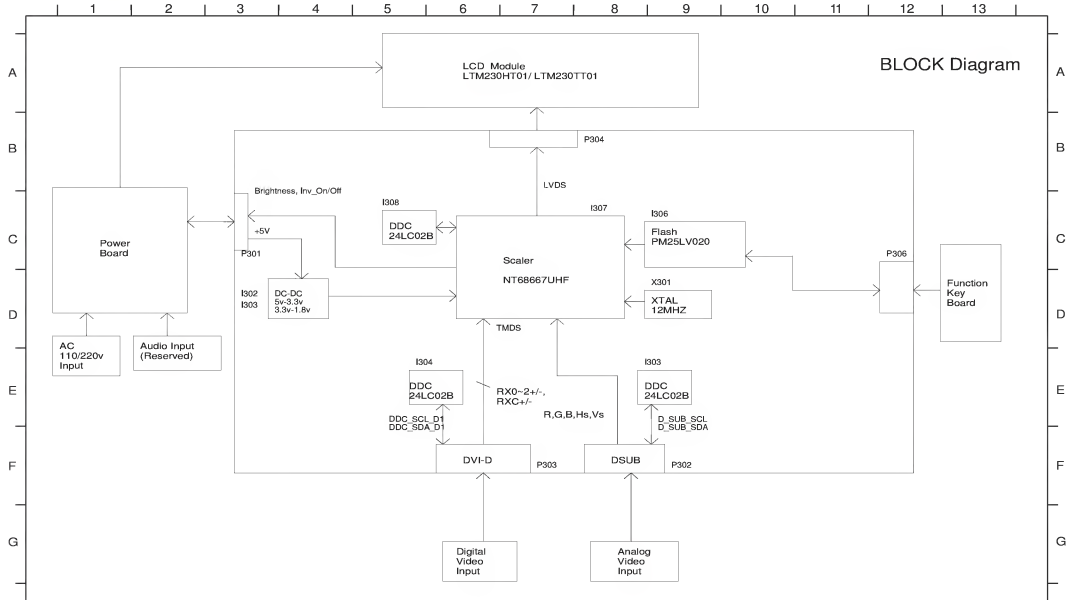
S1 Choose the folder "ACER-HDMI-DDC"

Double click " Acer 24-HDMI "

The writing process same as writing 1A process.

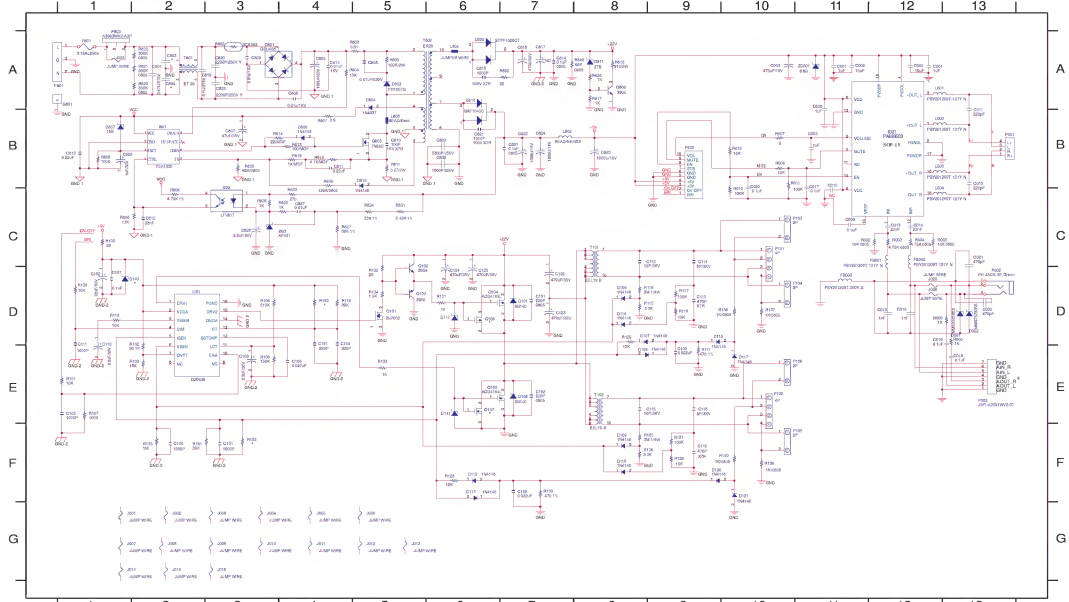
S2 When EDID was written successfully that will show below message on the screen



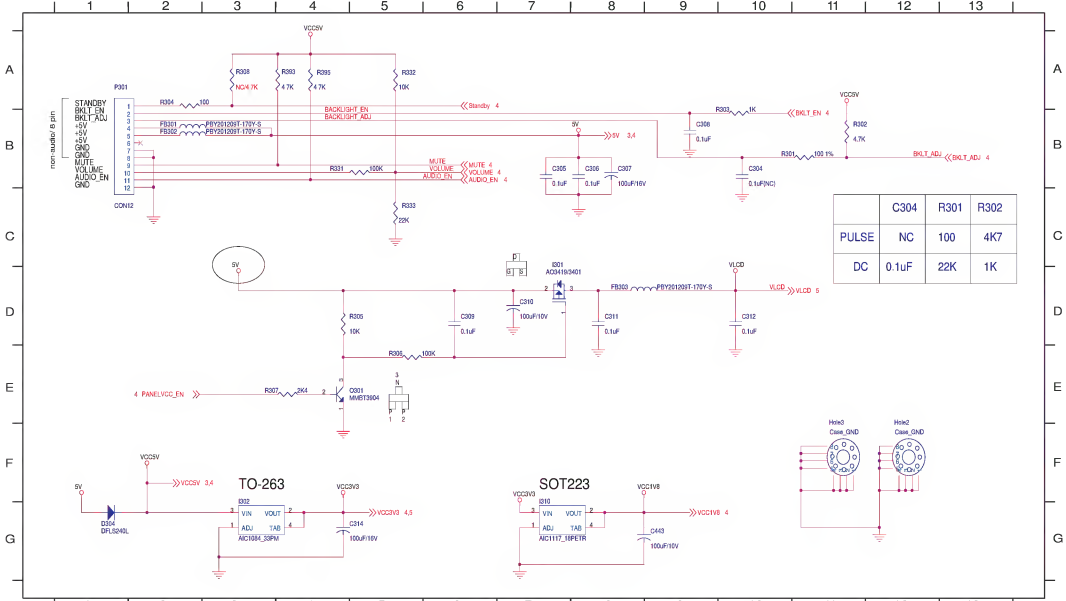

BLOCK Diagram
LCD Module
LTM230HT01/ LTM230TT01
P304
LVDS
Brightness, Inv_On/Off
+5V
P301
Power
Board
AC
110/220v
Input
Audio Input
(Reserved)
I308
DDC
24LC02B
I307
Scaler
NT68667UHF
I306
Flash
PM25LV020
X301
XTAL
12MHZ
P306
Function
Key
Board
I302
I303
DC-DC
5v-3.3v
3.3v-1.8v
TMDS
I304
DDC
24LC02B
I303
DDC
24LC02B
RX0~2+/-,
RXC+/-
R,G,B,Hs,Vs
DDC_SCL_D1
DDC_SDA_D1
D_SUB_SCL
D_SUB_SDA
DVI-D
P303
DSUB
P302
Digital
Video
Input
Analog
Video
Input

8.2 ACER_LCD_V233H_SCHEMATICS_POWER BOARD

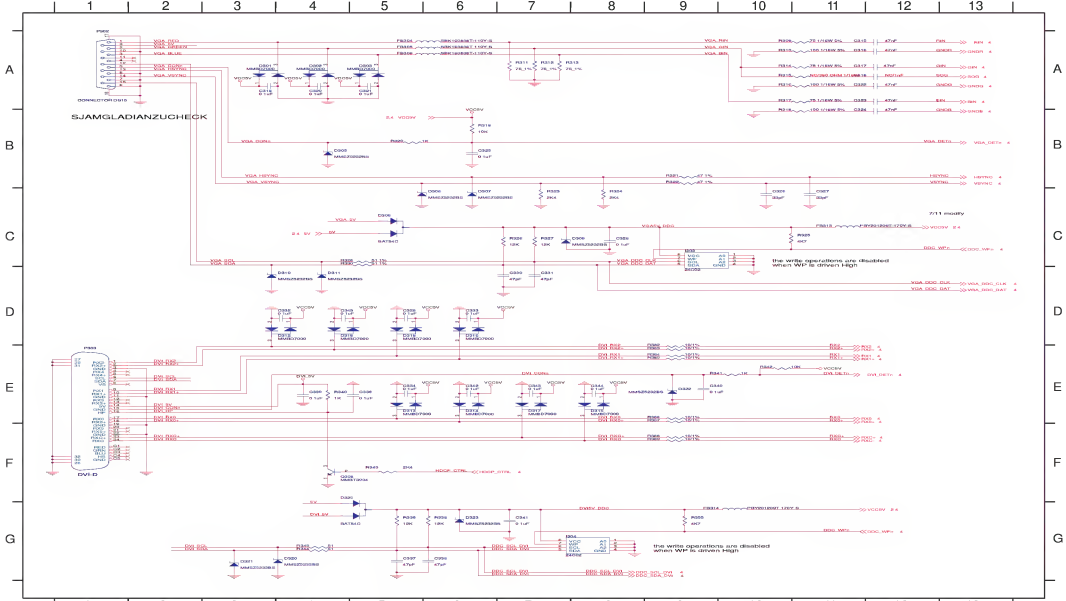
1A,1A1D and 1A1D1H be used in common power board



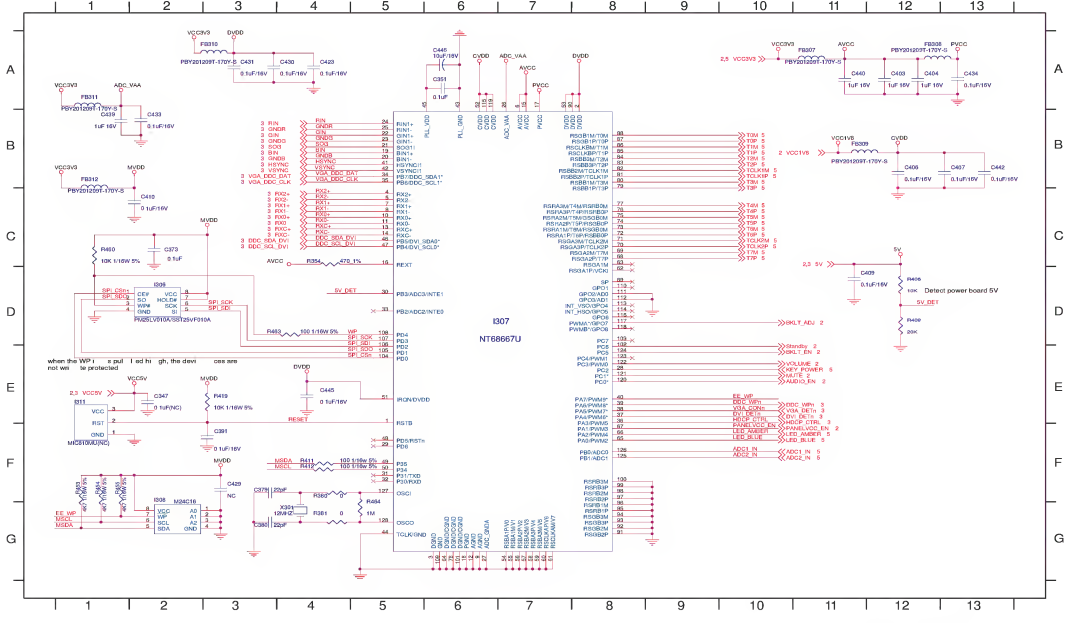
PCB No. 6832209800P01



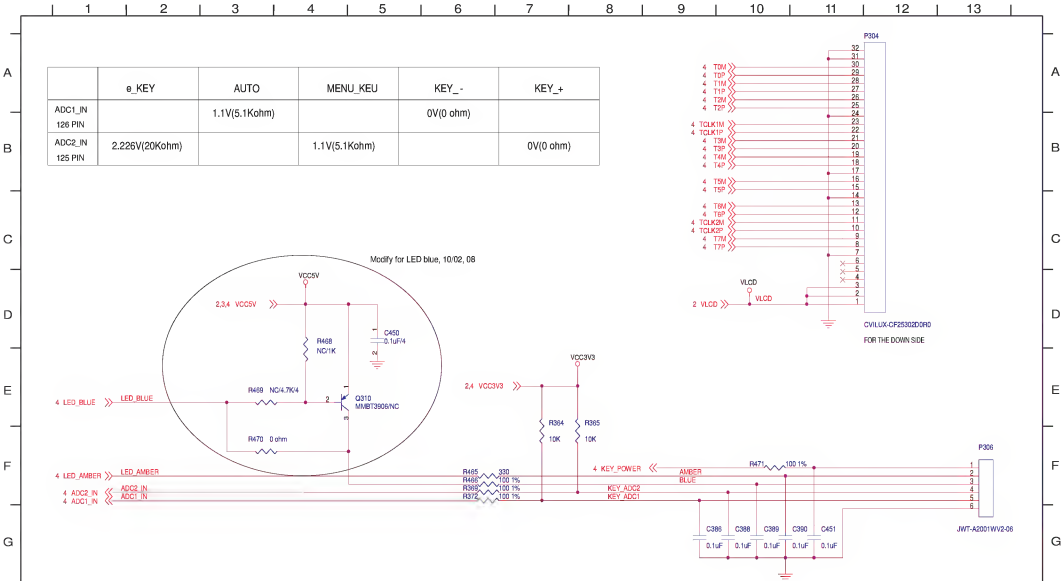
PCB No. 6832215800P02

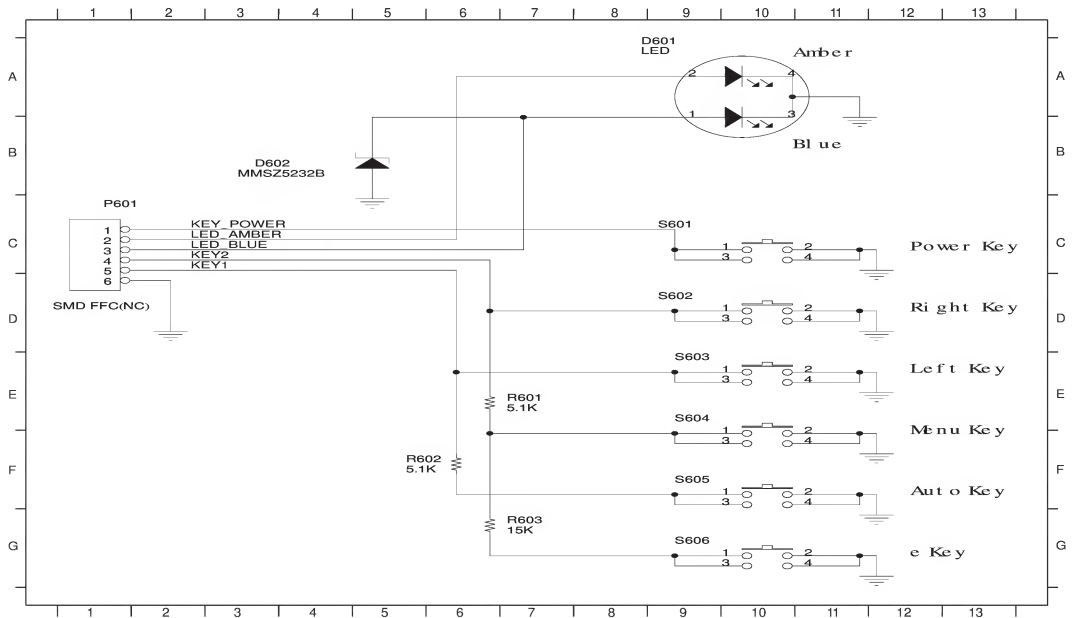

SJAMGLADIANZUCHECK
the write operations are disabled when WP is driven High
7/11 modify
the write operations are disabled when WP is driven High
DVI-D

PCB No. 6832215800P02

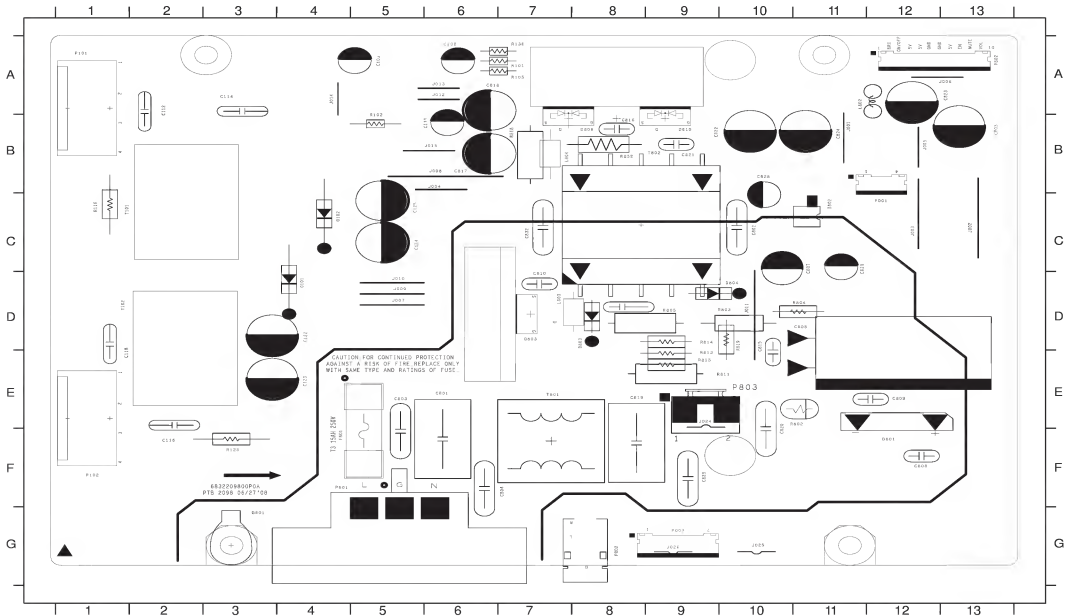

I307
NT68667U
PCB No. 6832215800P02

	e_KEY	AUTO	MENU_KEU	KEY_-	KEY_+
ADC1_IN 126 PIN		1.1V(5.1Kohm)		0V(0 ohm)	
ADC2_IN 125 PIN	2.226V(20Kohm)		1.1V(5.1Kohm)		0V(0 ohm)

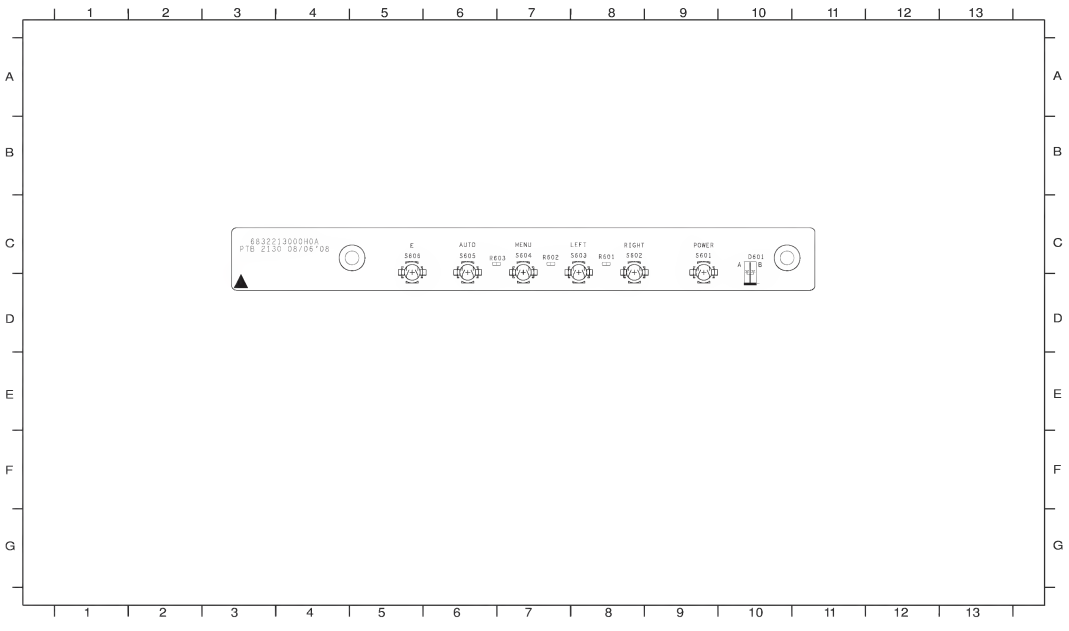


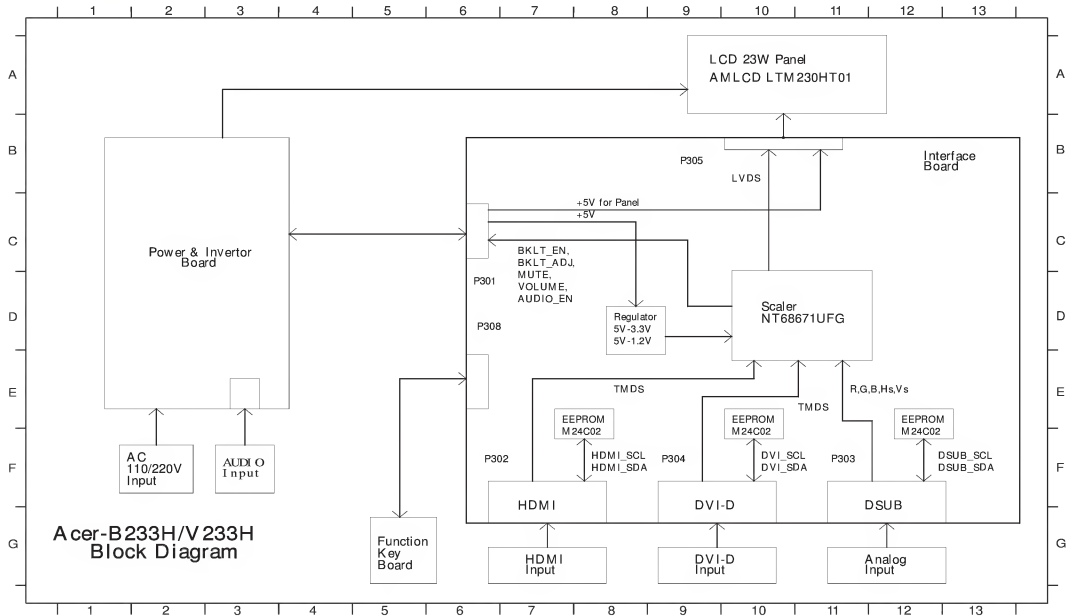

D601
LED
Amber
Blue
D602
MMSZ5232B
P601
KEY_POWER
LED_AMBER
LED_BLUE
KEY2
KEY1
SMD FFC(NC)
S601
Power Key
S602
Right Key
S603
Left Key
S604
Menu Key
S605
Auto Key
S606
e Key
R601
5.1K
R602
5.1K
R603
15K

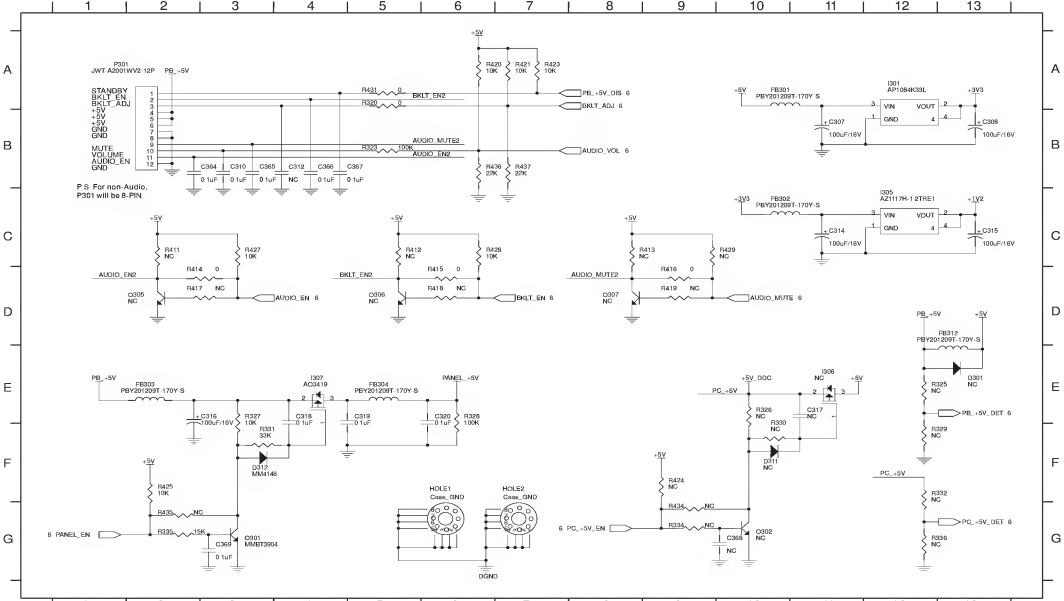
8.8 ACER_LCD_V233H_LAYOUTS_INTERFACE_BOARD



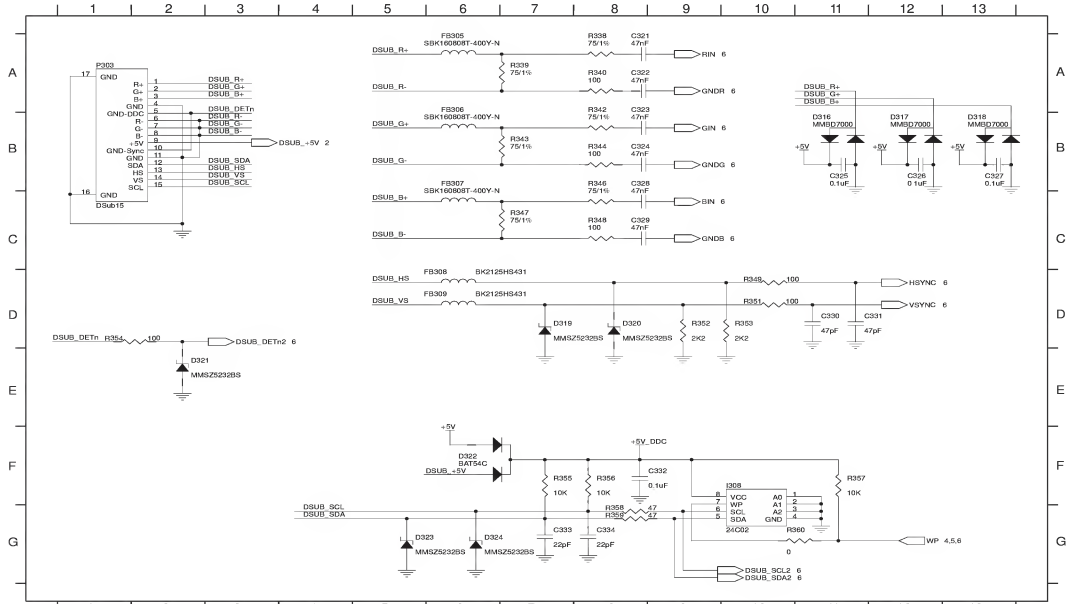
8.9 ACER_LCD_V233H_LAYOUTS_FUNCTION KEY BOARD



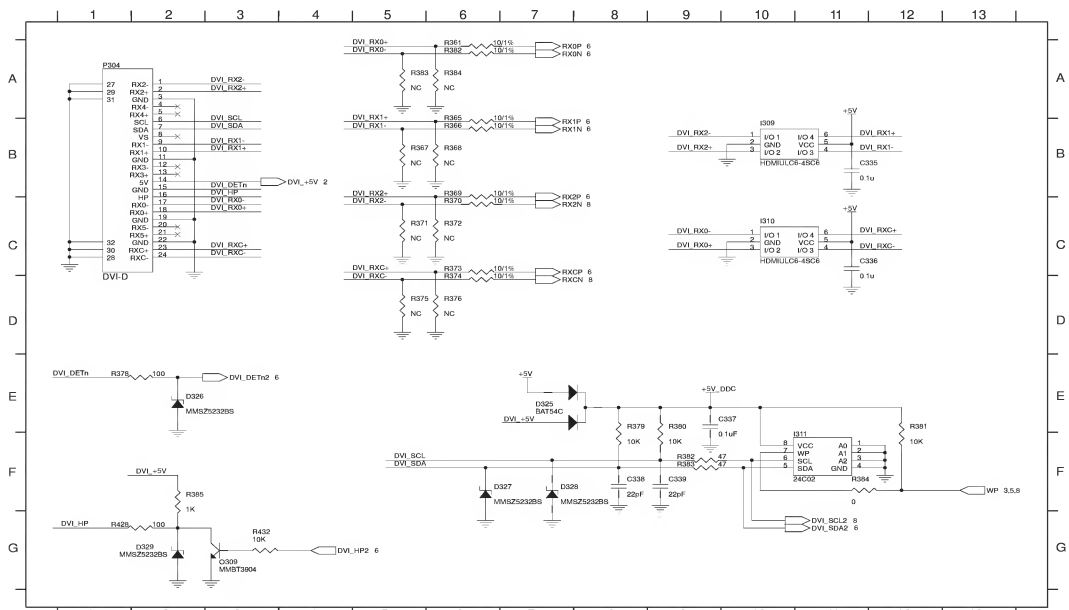

LCD 23W Panel
AMLCD LTM230HT01
Interface Board
P305
LVDS
+5V for Panel
+5V
Power & Invertor Board
BKLT_EN,
BKLT_ADJ,
MUTE,
VOLUME,
AUDIO_EN
P301
P308
Regulator
5V-3.3V
5V-1.2V
Scaler
NT68671UFG
TMDS
R,G,B,Hs,Vs
TMDS
EEPROM
M24C02
EEPROM
M24C02
EEPROM
M24C02
HDMI_SCL
HDMI_SDA
DVI_SCL
DVI_SDA
DSUB_SCL
DSUB_SDA
P302
P304
P303
HDMI
DVI-D
DSUB
AC
110/220V
Input
AUDIO
Input
Function
Key
Board
HDMI
Input
DVI-D
Input
Analog
Input
Acer-B233H/V233H
Block Diagram



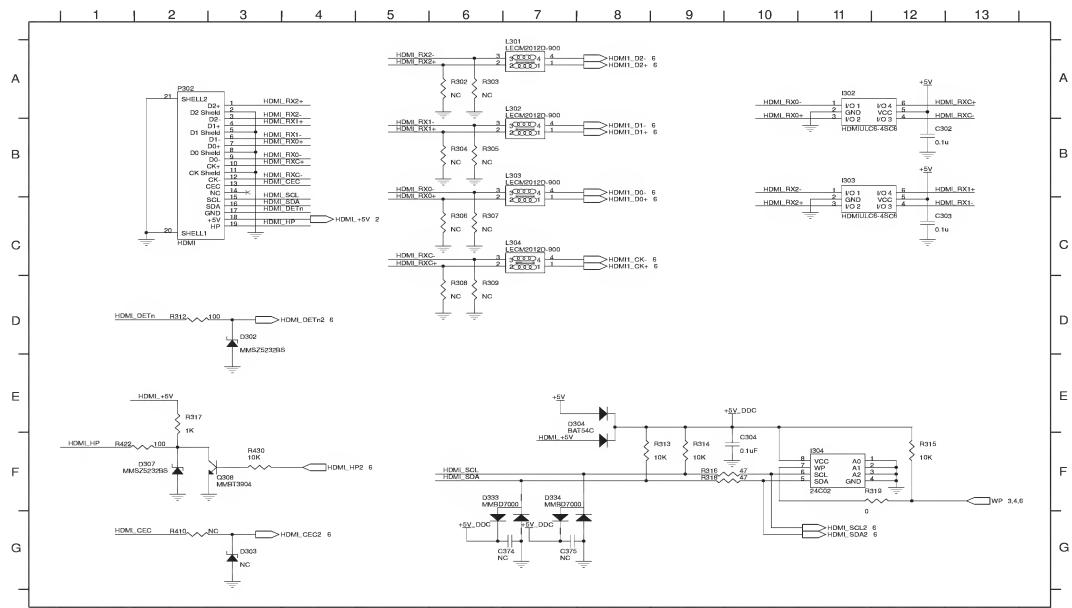
PCB No. 6832215700P02



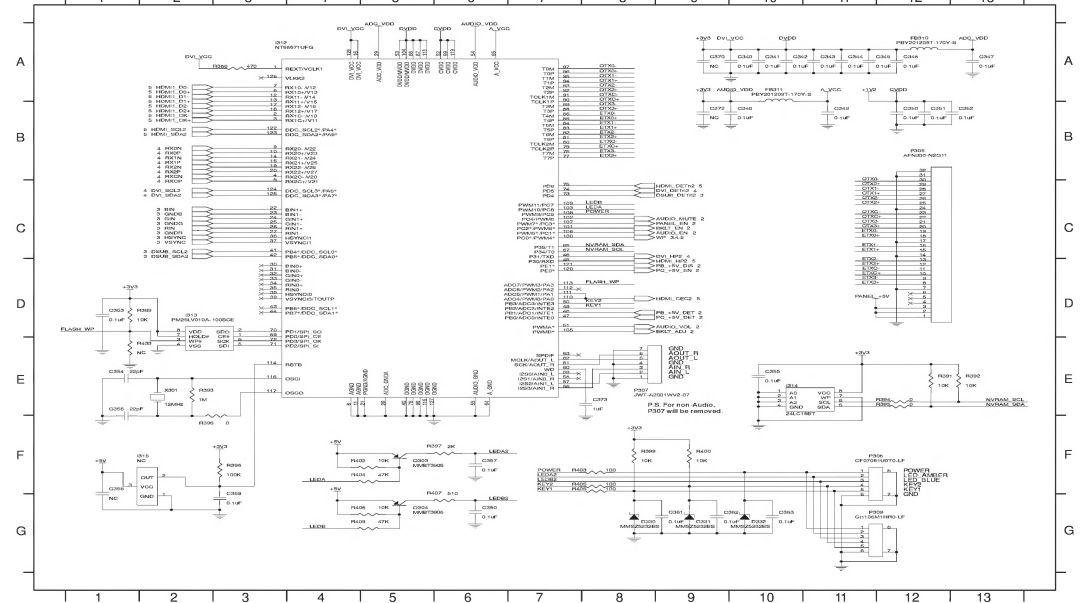
PCB No. 6832215700P02



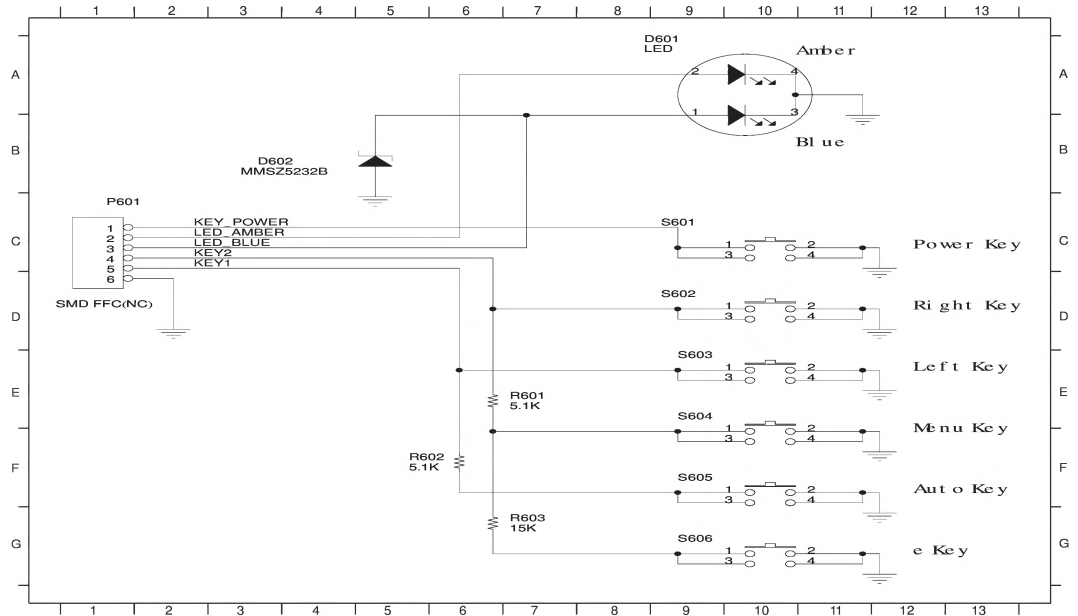
PCB No. 6832215700P02



PCB No. 6832215700P02



PCB No. 6832215700P02


D601
LED
Amber
Blue
D602
MMSZ5232B
P601
KEY_POWER
LED_AMBER
LED_BLUE
KEY2
KEY1
SMD FFC(NC)
S601
Power Key
S602
Right Key
S603
Left Key
S604
Menu Key
S605
Auto Key
S606
e Key
R601
5.1K
R602
5.1K
R603
15K